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G General Information

Organization of Catalog

Organization of the Catalog

The Eaton's Crouse-Hinds catalog includes products from eight major offerings: Industrial Fittings, Commercial Products, Control, Apparatus, Enclosures, Industrial Lighting, Signaling Devices, and Plugs and Receptacles.

Major Sections

The eight product lines are broken down into major sections to catalog similar items. The sections are:

Product Line	Major Section
Fittings	Section F
Commercial Products	Section CP
Control	Section C
Apparatus	Section A
Enclosures	Section E
Industrial Lighting	Section L
Signaling Devices - Visual and Audible	Section S
Plugs & Receptacles	Section P

Product Sections

Each of the eight major product sections is broken down into minor product sections to make it easier to find and select desired items. Each minor product section has an index for that section.

Product Line	Major Section	Minor Sections
Fittings	Section F	1F – 6F
Commercial Products	Section CP	CP
Control	Section C	1C – 7C
Apparatus	Section A	1A – 4A
Enclosures	Section E	1E – 6E
Industrial Lighting	Section L	1L – 10L
Signaling Devices - Visual and Audible	Section S	1S - 6S
Plugs & Receptacles	Section P	1P – 11P

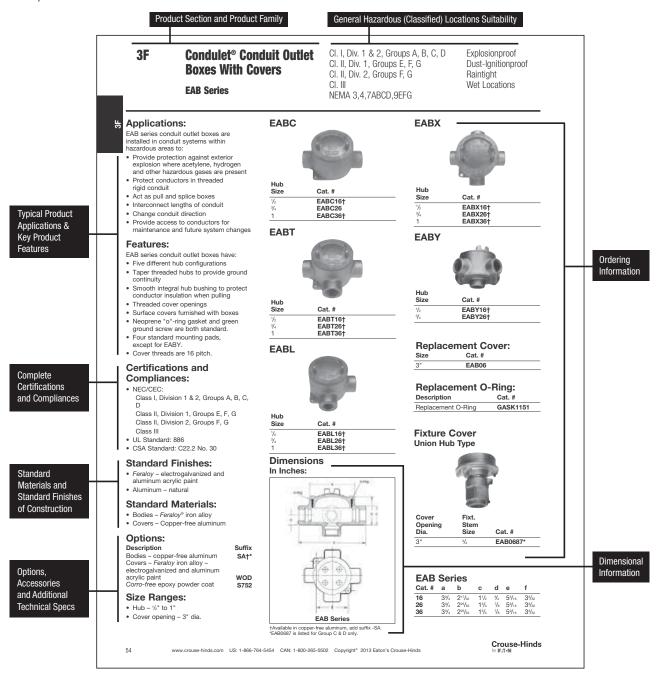
Transition Pages

Black transition pages help identify each product section for easy reference. The transition pages provide information on new products within the product section, as well as notable changes to the product section since the last printing of the Eaton's Crouse-Hinds Full-Line Catalog.

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Catalog Page Layout

To make it easier to find specific information about a product, all catalog pages follow the same general layout. A sample follows.



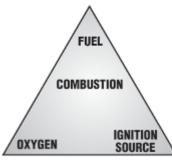
General Information G

Reference Information Hazardous (Classified) Locations

The installation and maintenance of equipment for use in Hazardous (Classified) Locations is governed by the National Electrical Code® (NEC), Canadian Electrical Code® (CEC), and/or other local codes. The information that follows is not intended to be a comprehensive discussion of Hazardous Areas, but a general overview which can be used to assist in the selection of appropriate equipment

Hazardous (Classified) Locations

A source of energy is all that is needed to touch off an explosion when flammable gases, vapors or combustible dusts are mixed in the proper proportion with air. The explosion triangle is an effective way to remember this principle.



COMBUSTION TRIANGLE

In an industrial enviroment, sparks or heat from electrical equipment can be the source of ignition, which can ignite surrounding gases or combustible dusts with disastrous results.

Users, insurance underwriters and engineering companies classify hazardous areas. Eaton's Crouse-Hinds cannot classify hazardous areas.

There are two methods for classifying hazardous areas: Classes and Zones.

Using the Classes methodology, hazardous areas are broken down into three distinct classes based upon the material that makes the area hazardous.

Classes:

Class I areas are hazardous because of the presence of Gases & Vapors. Examples of areas that may have Class I areas are: refineries, chemical plants, paint spray areas, waste water treatment facilities, printing presses, and pharmaceutical facilities.

Class II areas are hazardous because of the presence of Combustible Dusts. Examples of areas that may have Class II areas are: grain processing and storage facilities, coal handling and storage areas, cocoa plants, metal grinding areas, and munitions plants.

Class III areas are hazardous because of the presence of Easily Ignitable Fibers & Flyings. Examples of areas that may have Class III areas are: textile mills, wood cutting and pulverizing facilities, insulation manufacturing areas, cotton mills and wool processing areas.

Within the Classes classification, areas are divided into two distinct Divisions; Division 1 and Division 2.

Division 1 atmospheres cover locations where the hazardous material can exist under normal operating conditions. Division 1 is referred to as "normally hazardous". An example of an area that could be rated as Class I, Division 1 would be an area surrounding a vat where a product is being produced and flammable vapors are released as a normal byproduct of the manufacturing process.

Division 2 atmospheres cover locations where the hazardous material does not typically exist. Division 2 is referred to as "not normally hazardous". Examples of areas that could be rated as Class I, Division 2 would be a location where flammable gases or vapors are handled in a closed system, or confined within suitable enclosures, or where hazardous concentrations are normally prevented by positive mechanical ventilation. Areas adjacent to Division 1 locations, into which gases might occasionally flow, would also belong to Division 2.

Class II areas are also divided into Division 1 and Division 2 depending on the quantity of dust present in the area. In Class II, Division 1 areas the combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures. In Class II, Division 2 areas the combustible dust is not normally in the air in quantities sufficient to produce explosive or ignitible

A Class III, Division 1 location is a location in which easily ignitible fibers or materials producing combustible flyings are manufactured or used.

A Class III, Division 2 location is a location in which easily ignitible fibers are stored or handled other than in the process of manufacture.

Groups:

Hazardous areas are then broken down into sub-categories grouped based on the characteristics of the materials. Class I areas (gases and vapors) are divided into four groups; A, B, C, D.

Class II areas (dusts) are divided into three groups; E, F, G. (For areas rated Class II, Group E there is no Division 2, only Division 1).

There are no groups for Class III (easily ignitible fibers and flyings).

The chart below shows typical hazardous material for each group.

In selecting equipment, equipment must be approved not only for the class of location but also for the explosive, combustible, or ignitible properties of the specific gas, vapor, dust, fiber or flyings that will be present. In addition, heat producing equipment, such as light fixtures and heaters, must not operate with temperatures, as appropriately measured, that are above the temperature, which could potentially be a source of ignition. An identification number is used to identify the maximum temperature of the equipment and is marked on the equipment. The identification number is referred to as a "T-number".

The chart below shows maximum temperature for each of the 14 T-numbers.

Temperature Identification Numbers.

Maxi Tempe Deg.C		Identification Number
	Deg.r	
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

Zones:

The 2008 edition of the NEC and the 2009 edition of the CEC gave industries in North America a choice of how to classify hazardous areas.

The Zone Classification addresses areas made hazardous due to the presence of flammable gases or vapors, or flammable liquids and is based upon the IEC three zone system.

A Class I, Zone 0 location is a location in which ignitible concentrations of flammable gases or vapors are present continuously or for long periods of time. An example of an area that could be classified as Class I, Zone 0 is the vapor space within a vented tank.

Class I -	Class II	Class III
(Gases & Vapors)	(Dusts)	(Fibers & Flyings)
A – Acetylene	E – Metal	No groups
B – Hydrogen	F - Carbonaceous	
C – Ethylene	G – Grain (organic)	
D - Propane		

Reference Information Hazardous (Classified) Locations

A Class I, Zone 1 location is a location in which ignitible concentrations of flammable gases or vapors are likely to exist under normal operating conditions. An area adjacent to a Class I, Zone 0 location would also be a Zone 1 location. An example of an area that could be classified Class I, Zone 1 would be a container filling area in a refinery.

(Zone 0 and Zone 1 locations are similar to Division 1).

A Class I, Zone 2 location is a location in which ignitible concentrations of flammable gases or vapors are not likely to occur in normal operation and if they do occur will exist only for a short period.

An example of an area that could be classified Class I, Zone 2 would be a container storage area.

(Zone 2 locations are similar to Division 2).

Groups:

Similar to the Classes method of classifying hazardous areas, the Zone method also groups the hazardous gases or vapors together based upon characteristics of those gases or vapors. In the Zone classification system, there are three groups; IIC, IIB, and IIA.

The chart below shows typical hazardous material for each group.

Group	Typical Gas or Vapor
IIC	Acetylene and Hydrogen
IIB	Acetaldehyde and Ethylene
IIA	Methane, Gasoline, and Propane

Also similar to the Class method, the Zone method requires equipment be marked to show the operating temperature or temperature range. The temperature range is identified through the use of an identification number.

The table below shows the maximum surface temperature for the six temperature classes.

Classification of Maximum Surface Temperature for Group II Electrical Equipment									
Temp. Class	T1	T2	Т3	T4	T5	Т6			
Max. Surface Temp. (°C)	≤ 450	≤ 300	≤ 200	≤ 135	≤ 100	≤ 85			

Methods of Protection

Many of the products offered in this Eaton's Crouse-Hinds catalog are designed and manufactured for safe use within a hazardous (classified) location, when properly installed and maintained. Some of the more commonly used protection techniques incorporated into product design and manufacture are listed below.

Explosionproof equipment contains the explosion and allows gases to cool as they escape the enclosure across threaded, flat or serrated joints. These metallic enclosures are drilled and tapped for conduit or cable glands.

Intrinsic Safety allows instrumentation and control circuits to operate properly under normal conditions, but protects them if an electrical fault occurs, by limiting the voltage and current, thus preventing ignition from sparks or overheating.

Flameproof enclosures – With this type of protection, those parts that are capable of igniting an explosive atmosphere are built into a flameproof enclosure that withstands the explosion pressure if a flammable mixture is ignited inside it. The transmission of the explosion to the surrounding atmosphere is prevented.

Increased Safety – This type of protection is used for electrical apparatus that, under normal operating conditions, does not form an ignition. Apparatus that produces arcs or sparks in the course of normal operation or apparatus that generates "excessive" heat are not suitable for this type of protection. Therefore, this type of protection in not used for equipment such as switchgear, pushbuttons and motors.

Dust-ignition Proof – This type of protection used for applications in Class II (dusts) in North America excludes ignitible concentrations of dusts and offers cool operating temperatures.

ATEX, IECEx, GB, GOST, and Other International Hazardous Locations Requirements:

Outside of North America, much of the world uses the IEC system of standards as the basis for classifying and specifying hazardous locations equipment. The IEC system uses the zone classification method for defining the type and degree of hazard. Gas groups, temperature codes and protection techniques are similar to those used for NEC/CEC zone classifications.

For further information on zones and ATEX/IEC Type protection techniques, refer to the Eaton's Crouse-Hinds Ex Digest.

Please note, the above information is provided only as an overview of hazardous (classified) locations and protection techniques. For more detailed information, including a comprehensive list of hazardous atmospheres and their characteristics as well as a glossary of terms, consult the appropriate governing code, the Eaton's Crouse-Hinds Code Digest, or contact your local Eaton's Crouse-Hinds representative.

G **General Information**

Reference Information Gases and Vapors – Hazardous Substances Used in Business and Industry

TABLE	I	Auto-*Ignition Temp.		Flash	Point		Flammable Limits Percent by Volume		
Class I* Group	Substance	°F	°C	°F	°C	Lower	Upper	Vapor Density (Air Equals 1.0	
	Acetaldehyde	347	175	-38	-39	4	60	1.5	
)	Acetic Acid	867	464	103	39	4	19.9 @ 200°F	2.1	
)	Acetic Anhydride	600	316	120	49	2.7	10.3	3.5	
)	Acetone	869	465	-4	-20	2.5	13	2	
)	Acetone Cyanohydrin	1270	688	165	74	2.2	12	2.9	
)	Acetonitrile	975	524	42	6	3	16	1.4	
١	Acetylene	581	305	gas	gas	2.5	100	0.9	
S(C)	Acrolein (inhibited)‡	455	235	-15	-26	2.8	31	1.9	
)	Acrylic Acid	820	438	122	50	2.4	8	2.5	
)	Acrylonitrile	898	481	32	0	3	17	1.8	
1	Adiponitrile	_	_	200	93	_	_	_	
	Allyl Alcohol	713	378	70	21	2.5	18	2	
)	Allyl Chloride	905	485	-25	-32	2.9	11.1	2.6	
(C)	Allyl Glycidyl Ether‡	_	_	_	_	_	_	_	
	Ammonia§	928	498	gas	gas	15	28	0.6	
	n-Amyl Acetate	680	360	60	16	1.1	7.5	4.5	
	sec-Amyl Acetate	_	_	89	32	_	_	4.5	
	Aniline	1139	615	158	70	1.3	11	3.2	
	Benzene	928	498	12	-11	1.3	7.9	2.8	
	Benzyl Chloride	1085	585	153	67	1.1	_	4.4	
(D)	1,3-Butadiene‡	788	420	gas	gas	2	12	1.9	
,	Butane	550	288	-76	-60	1.6	8.4	2	
)	1-Butanol	650	343	98	37	1.4	11.2	2.6	
)	2-Butanol	761	405	75	24	1.7 @ 212°F		2.6	
)	n-Butyl Acetate	790	421	72	22	1.7	7.6	4	
)	iso-Butyl Acetate	790	421	_	_	_	_	_	
)	sec-Butyl Acetate	_	_	88	31	1.7	9.8	4	
	t-Butyl Acetate	_	_	_	_		_		
	n-Butyl Acrylate (inhibited)	559	293	118	48	1.5	9.9	4.4	
	n-Butyl Formal	_	_	_	_	_	_	_	
(C)	n-Butyl Glycidyl Ether‡	_	_	_	_	_	_	_	
(0)	Butyl Mercaptan	_	_	35	2	_	_	3.1	
	t-Butyl Toluene	_	_	_	_	_	_	_	
)	Butylamine	594	312	10	-12	1.7	9.8	2.5	
	Butylene	725	385	gas	gas	1.6	10	1.9	
	n-Butyraldehyde	425	218	-8	-22	1.9	12.5	2.5	
	n-Butyric Acid	830	443	161	72	2	10	3	
	Carbon Disulfide	194	90	-22	-30	1.3	50	2.6	
	Carbon Monoxide	1128	609	gas	gas	12.5	74	1	
	Chloroacetaldehyde	— —	-	yas —	yas —	12.5	- -	<u> </u>	
	Chlorobenzene	1099	 593	- 82	28	_ 1.3	9.6	3.9	
	1-Chloro-1-Nitropropane	1099		o∠ 144	20 62		9.6	3.9 4.3	
	Chloroprene	_	_	-4	-20	- 4	20	3	
				-4 178-187		1.1-1.4			
	Cresol	1038-1110	559-599		81-86		_	_	
	Crotonaldehyde	450	232	55	13	2.1	15.5	2.4	
)	Cumene	795	424	96	36	0.9	6.5	4.1	
	Cyclohexane	473 570	245	-4 154	-20	1.3	8	2.9	
	Cyclohexanol	572	300	154	68	_ 1 1 @010°	_	3.5	
	Cyclohexanone	473	245	111	44	1.1 @212°	9.4	3.4	
	Cyclohexene	471	244	<20	<-7	_	_	2.8	
	Cyclopropane	938	503	gas	gas	2.4	10.4	1.5	
	p-Cymene	817	436	117	47	0.7 @212°F	5.6	4.6	
	n-Decaldehyde	_	_	_	_	_	_	_	
	n-Decanol	550	288	180	82	_	_	5.5	
	Decene	455	c225	<131	<5	_	_	4.84	
	Diacetone Alcohol	1118	603	148	64	1.8	6.9	4	
	o-Dichlorobenzene	1198	647	151	66	2.2	9.2	5.1	
	1,1-Dichloroethane	820	438	22	-6	5.6	_	_	
	1,2-Dichloroethylene	860	460	36	2	5.6	12.8	3.4	
	1,1-Dichloro-1-Nitroethane	_	_	168	76	_	, -	5	
	1,3-Dichloropropene	_	_	95	35	5.3	14.5	3.8	
	Dicyclopentadiene	937	503	90	32	_	_	_	
	Diethyl Benzene	743-842	395-450	133-135	56-57	_	_	4.6	
	Diethyl Ether	320	160	-49	-45	1.9	36	2.6	
	Diethylamine	594	312	-9	-23	1.8	10.1	2.5	
	Diethylaminoethanol	_	_	_	_	_	_	_	
	Diethylene Glycol Monobutyl Ether								
		442	228	172	78	0.85	24.6	5.6	

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General Information

Reference Information Gases and Vapors – Hazardous Substances Used in Business and Industry

	I (cont'd)	Auto-*Ignitior	n Temp.	Flash	Point		ole Limits by Volume	
Class I* Group	Substance	°F	°C	°F	°C	Lower	Upper	Vapor Density (Air Equals 1.0)
С	Diethylene Glycol							
	Monomethyl Ether	465	241	205	96	_	_	_
D	Di-isobutyl Ketone	745	396	120	49	0.8 @ 200°F	7.1 @ 200°F	4.9
D D	Di-isobutylene	736 600	391	23	-5 -1	0.8	4.8	3.9
C	Di-isopropylamine N-N-Dimethyl Aniline	700	316 371	30 145	63	1.1	7.1 —	3.5 4.2
C	Dimethyl Formamide	833	455	136	58	2.2 @ 212°F	15.2	2.5
D	Dimethyl Sulfate	370	188	182	83		_	4.4
D	Dimethylamine	752	400	gas	gas	2.8	14.4	1.6
С	1,4-Dioxane	356	180	54	12	2	22	3
С	Dipentene	458	237	113	45	0.7 @ 302°F	6.1 @ 302°F	4.7
D	Di-n-propylamine	570	299	63	17	_	_	3.5
С	Dipropylene Glycol			100	0.0			F 11
D	Methyl Ether Dodecene	— 491	_ 255	186 —	86 —	_	_	5.11 —
C	Epichlorohydrin	772	255 411	88	_ 31	3.8	_ 21	3.2
D	Ethane	882	472	gas	gas	3	12.5	1
D	Ethanol	685	363	55	13	3.3	19	1.6
D	Ethyl Acetate	800	363 427	24	-4	3.3 2	11.5	3
D	Ethyl Acrylate (inhibited)	702	372	50	10	1.4	14	3.5
D	Ethyl sec-Amyl Ketone	_	_	_	_	_		_
D	Ethyl Benzene	810	432	70	21	0.8	6.7	3.7
D	Ethyl Butanol	_	_	_	_	_	_	_
D	Ethyl Butyl Ketone	_	_	115	46	_	_	4
D	Ethyl Chloride	966	519	-58	-50	3.8	15.4	2.2
D	Ethyl Formate	851	455	-4	-20	2.8	16	2.6
D	2-Ethyl Hexanol	448	231	164	73	0.88	9.7	4.5
D C	2-Ethyl Hexyl Acrylate Ethyl Mercaptan	485 572	252 300	180 <0	82 <-18	_ 2.8	_ 18	_ 2.1
C	n-Ethyl Morpholine	- -	_	_	-32	Z.0 —	-	Z. I —
C	2-Ethyl-3-Propyl Acrolein	_	_	155	_	_	_	4.4
Ď	Ethyl Silicate	_	_	125	gas	_	_	7.2
D	Ethylamine	725	385	<0	<-18	3.5	14	1.6
С	Ethylene	842	450	gas	_	2.7	36	1
D	Ethylene Chlorohydrin	797	425	140	68	4.9	15.9	2.8
D	Ethylene Dichloride	775	413	56	52	6.2	16	3.4
С	Ethylene Glycol	400	000	140	00	1 1 @ 0000	10 7 @ 07505	4.4
С	Monobutyl Ether Ethylene Glycol	460	238	143	62	1.1 @ 200°F	12.7 @ 275°F	4.1
С	Monobutyl Ether Acetate Ethylene Glycol	645	340	160	71	1.7 @ 200°F	8.54 @ 275°F	_
	Monomethyl ether	455	235	110	43	1.7 @ 200°F	15.6 @ 200°F	3.0
С	Ethylene Glycol Monoethyl Ether Acetate	74.5	070	104	50	1.7		4.70
D	Ethylene Glycol	715	379	124	52	1.7	_	4.72
D	Monomethyl Ether	545	285	102	39	1.8 @ STP	14 @ STP	2.6
B(C)	Ethylene Oxide‡	804	429	-20	-28	3.0	100	1.5
D` ´	Ethylenediamine	725	385	104	40	2.5	12.0	2.1
С	Ethylenimine	608	320	12	-11	3.3	54.8	1.5
С	2-Ethylhexaldehyde	375	191	112	44	0.85 @ 200°F	7.2 @ 275°F	4.4
В	Formaldehyde (Gas)	795	429	gas	gas	7.0	73	1.0
D	Formic Acid (90%)	813	434	122	50	18	57	1.6
В	Fuel and Combustible Process Gas (containing more than 30	_	_	_	_	_	_	_
_	percent H ₂ by volume)							
D	Fuel Oils		210-407	100-336	38-169	0.7	5	_
С	Furfural Alachal	600	316	140	60 75	2.1	19.3	3.3
С	Furfuryl Alcohol	915	490	167	75	1.8	16.3	3.4
D D	Gasoline Heptane	536-880 399	280-471 204	-36 to -50 25	-38 to -46 -4	1.2-1.5 1.05	7.1-7.6 6.7	3.4 3.5
D	Heptene	500	260	<32	-4 <0	1.05 —	6.7 —	3.39
D	Hexane	437	225	-7	-22	1.1	7.5	3
D	Hexanol	_	_	145	63	_	_	3.5
D	2-Hexanone	795	424	77	25	_	8	3.5
D	Hexenes	473	245	<20	<-7	_	_	3
D C	sec-Hexyl Acetate Hydrazine	- 74-518	_ 23-270	_ 100	_ 38	_ 2.9	— 9.8	_ 1.1

G General Information

Reference Information Gases and Vapors – Hazardous Substances Used in Business and Industry

TABLE	I (cont'd)	Auto-*Ignitio	on Temp.	Fla	sh Point		mmable Limits cent by Volume	
Class I* Group	Substance	°F	°C	°F	°C	Lower	Upper	Vapor Density (Air Equals 1.0)
B C	Hydrogen Hydrogen Cyanide	968 1000	520 538	gas	gas	4 5.6	75 40	0.1
C	Hydrogen Selenide	1000	-	0	-18 —	5.6 —	40 —	0.9 —
С	Hydrogen Sulfide	500	260	gas	gas	4	44	1.2
D	Isoamyl Acetate	680	360	77	25	1.0 @ 212°F	7.5	4.5
D D	Isoamyl Alcohol Isobutyl Acrylate	662 800	350 427	109 86	43 30	1.2	9.0 @ 212°F —	3 4.42
C	Isobutyraldehyde	385	196	-1	-18	1.6	10.6	2.5
С	Isodecaldehyde	_	_	185	85	_	_	5.4
C	Iso-octyl Aldebyde	_	_ 107	180	82	_	_	_
C D	Iso-octyl Aldehyde Isophorone	387 860	197 460	_ 184	- 84	0.8	_ 3.8	_
D	Isoprene	428	220	-65	-54	1.5	8.9	2.4
D	Isopropyl Acetate	860	460	35	2	1.8 @ 100°F	8	3.5
D	Isopropyl Ether	830	443	-18	-28	1.4	7.9	3.5
C D	Isopropyl Glycidyl Ether Isopropylamine	_ 756	_ 402	- -35	_ -37	_	_	- 2
D	Kerosene	410	210	110-162		0.7	5	_
D	Liquefied Petroleum Gas							
	Manufactured Gas (see Fuel and Combustible	761-842	405-450	_	_	_	_	_
_	Process Gas)	050	0.4.4	0.7	04	4.4	7.0	0.4
D D	Mesityl Oxide Methane	652 999	344 537	87 gas	31 gas	1.4 5.0	7.2 15.0	3.4 0.6
D	Methanol	725	385	52	11	6.0	36	1.1
D	Methyl Acetate	850	454	14	-10	3.1	16	2.8
D D	Methyl Acrylate	875	468	27	-3	2.8	25	3.0
D	Methyl Amyl Alcohol Methyl n-Amyl Ketone	_ 740	393	106 102	41 39	1.0 1.1 @ 151°F	5.5 7.9 @ 250°F	_ 3.9
C	Methyl Ether	662	350	gas	gas	3.4	27.0	1.6
D	Methyl Ethyl Ketone	759	404	16	-9	1.7 @ 200°F	11.4 @ 200°F	2.5
D C	2-Methyl-5-Ethyl Pyridine Methyl Formal	— 460	_ 238	155 —	68 —	1.1 —	6.6 —	4.2 —
D	Methyl Formate	840	449	-2	-19	4.5	23	2.1
D	Methyl Isobutyl Ketone	840	440	64	18	1.2 @ 200°F	8.0 @ 200°F	3.5
D	Methyl Isocyanate	994	534	19	-7	5.3	26	1.97
С	Methyl Mercaptan	_	_	_	_	3.9	21.8	1.7
D D	Methyl Methacrylate 2-Methyl-1-Propanol	792 780	422 416	50 82	10 28	1.7 1.7 @ 123°F	8.2 10.6 @ 202°F	3.6 2.6
D	2-Methyl-2-Propanol	892	478	52	11	2.4	8.0	2.6
D	alpha-Methyl Styrene	1066	574	129	54	1.9	6.1	 .
C C	Methylacetylene Methylacetylene-	_	_	gas	gas	1.7	_	1.4
O	Propadiene (stabilized)	_	_	_	_	_	_	_
D	Methylamine	806	430	gas	gas	4.9	20.7	1.0
D	Methylcyclohexane	482	250	25	-4	1.2	6.7	3.4
D D	Methylcyclohexanol o-Methylcyclohexanone	565 —	296 —	149 118	65 48	_	_	3.9 3.9
D	Monoethanolamine	770	410	185	85	_	_	2.1
D	Monoisopropanolamine	705	374	171	77	_	_	2.6
C	Monomethyl Aniline Monomethyl Hydrazine	900	482	185	85	_ 0.5	_	3.7
C C	Morpholine	382 590	194 310	17 98	-8 37	2.5 1.4	92 11.2	1.6 3.0
Ď	Naphtha (Coal Tar)	531	277	107	42	_	_	_
D	Naphtha (Petroleum)▲	550	288	<0	<-18	1.1	5.9	2.5
D	Nitrobenzene Nitroethane	900 778	482 414	190 82	88 28	1.8 @ 200°F 3.4	_	4.3 2.6
C C	Nitromethane	776 785	414	o∠ 95	26 35	7.3	_	2.0
С	1-Nitropropane	789	421	96	36	2.2	_	3.1
С	2-Nitropropane	802	428	75	24	2.6	11.0	3.1
D D	Nonane Nonene	401 —	205	88 78	31 26	0.8	2.9 —	4.4 4.35
D	Nonyl Alcohol	_	_	78 165	26 74	_ 0.8 @ 212°F	_ 6.1 @ 212°F	4.35 5.0
D	Octane	403	206	56	13	1.0	6.5	3.9
D	Octene	446	230	70	21	_	_	3.9
D	n-Octyl Alcohol	_	_	178	81	_	_	4.5

G

General Information

Reference Information Gases and Vapors – Hazardous Substances Used in Business and Industry

TABLE	l (cont'd)							
		Auto-*Ignit	ion Temp.	Flash	Point		ble Limits by Volume	
Class I* Group	Substance	°F	°C	°F	°C	Lower	Upper	Vapor Density (Air Equals 1.0)
D	Pentane	470	243	<-40	<-40	1.5	7.8	2.5
D	1-Pentanol	572	300	91	33	1.2	10.0 @ 212°F	3.0
D	2-Pentanone	846	452	45	7	1.5	8.2	3.0
D	1-Pentene	527	275	0	-18	1.5	8.7	2.4
D	Phenylhydrazine	_	_	190	88	_	_	_
D	Propane	842	450	gas	gas	2.1	9.5	1.6
D	1-Propanol	775	413	74	23	2.2	13.7	2.1
D	2-Propanol	750	399	53	12	2.0	12.7 @ 200°F	2.1
D	Propiolactone	_	_	165	74	2.9	_	2.5
С	Propionaldehyde	405	207	-22	-30	2.6	17	2.0
D	Propionic Acid	870	466	126	52	2.9	12.1	2.5
D	Propionic Anhydride	545	285	145	63	1.3	9.5	4.5
D	n-Propyl Acetate	842	450	55	13	1.7 @ 100°F	8	3.5
С	n-Propyl Ether	419	215	70	21	1.3	7.0	3.53
В	Propyl Nitrate	347	175	68	20	2	100	_
D	Propylene	851	455	gas	gas	2.0	11.1	1.5
D	Propylene Dichloride	1035	557	60	16	3.4	14.5	3.9
B(C)	Propylene Oxide‡	840	449	-35	-37	2.3	36	2.0
D` ´	Pyridine	900	482	68	20	1.8	12.4	2.7
D	Styrene	914	490	88	31	0.9	6.8	3.6
С	Tetrahydrofuran	610	321	6	-14	2.0	11.8	2.5
D	Tetrahydronaphthalene	725	385	160	71	0.8 @ 212°F	5.0 @ 302°F	4.6
С	Tetramethyl Lead	_	_	100	38	_	_	6.5
D	Toluene	896	480	40	4	1.1	7.1	3.1
D	Tridecene	_	_	_	_	_	_	_
С	Triethylamine	480	249	16	-9	1.2	8.0	3.5
D	Triethylbenzene	_	_	181	83	_	_	5.6
D	Tripropylamine	_	_	105	41	_	_	4.9
D	Turpentine	488	253	95	35	0.8	_	_
D	Undecene	_	_	_	_	_	_	_
С	Unsymmetrical Dimethyl Hydrazine (UDMH)	480	249	5	-15	2	95	2.0
С	Valeraldehyde	432	222	54	12	_	_	3.0
Ď	Vinyl Acetate	756	402	18	-8	2.6	13.4	3.0
D	Vinyl Chloride	882	472	-108.4	-78	3.6	33.0	2.2
D	Vinyl Toluene	921	494	127	53	0.8	11.0	4.1
D	Vinylidene Chloride	1058	570	-19	-28	6.5	15.5	3.4
D	Xylenes	867-984	464-529	81-90	27-32	1.0-1.1	7.0	3.7

^{*}Data from NFPA 499 - *Recommended Practice for the Classification of Flammable Liquids, Gases or Vapors and of Hazardous (Classified) Locations for

^{*}Data from NFPA 499 - "Recommended Practice for the Classification of Flammable Liquids, Gases or vapors and of Razardous (Classified) Locations for Electrical Installations in Chemical Process Areas".

‡ If equipment is isolated by sealing all conduit ½ in. or larger, in accordance with Section 501.15(A) of NFPA 70, National Electrical Code, equipment for the group classification shown in parentheses is permitted.

§ For classification of areas involving Ammonia, see Safety Code for Mechanical Refrigeration, ANSI/ASHRAE 15, and Safety Requirements for the Storage and

And Import Anhydrous Ammonia, ANSI/CGA 62.1.

† Certain chemicals may have characteristics that require safeguards beyond those required for any of the above groups. Carbon disulfide is one of these chemicals because of its low autoignition temperature and the small joint clearance to arrest its flame propagation.

A Petroleum Naphtha is a saturated hydrocarbon mixture whose boiling range is 20° to 135°C. It is also known as benzine, ligroin, petroleum ether, and naphtha.

G General Information

Reference Information Dusts – Hazardous Substances Used in Business and Industry

TABLE II		um Clou			Minim Layer	ıd or Temp.†	
Material*	°F	•	°C '	Material*	°F	•	°C
Class II, Group E				Class II, Group G (cont'd)			
Aluminum, atomized collector fines	1022	CI	550	Lycopodium	590		310
Aluminum, A422 flake	608		320	Malt Barley	482		250
Aluminum — cobalt alloy (60-40)	1058		570	Milk, Skimmed	392		200
Aluminum — copper alloy (50-50)	1526		830	Pea Flour	500		260
Aluminum — lithium alloy (15% Li)	752	CI	400	Peach Pit Shell	410		210
Aluminum — magnesium alloy (Dowmetal)	806 1004	CI	430 540	Peanut Hull	410		210
Aluminum — nickel alloy (58-42) Aluminum — silicon alloy (12% Si)	1238	NL	670	Peat, Sphagnum Pecan Nut Shell	464 410		240 210
Boron, commercial-amorphous (85% B)	752	INL	400	Pectin	392		200
Calcium Silicide	1004		540	Potato Starch, Dextrinated	824	NL	440
Chromium, (97%) electrolytic, milled	752		400	Pyrethrum	410		210
Ferromanganese, medium carbon	554		290	Rauwolfia Vomitoria Root	446		230
Ferrosilicon (88%, 9% Fe)	1472		800	Rice	428		220
Ferrotitanium (19% Ti, 74.1% Fe, 0.06% C)	698	CI	370	Rice Bran	914	NL	490
Iron, 98%, H2 reduced	554		290	Rice Hull	428		220
Iron, 99%, Carbonyl	590		310	Safflower Meal	410		210
Magnesium, Grade B, milled	806		430	Soy Flour	374		190
Manganese	464	0.1	240	Soy Protein	500		260
Silicon, 96%, milled	1436	CI	780	Sucrose	662	CI	350
Tantalum The situate of 20% CO	572	01	300	Sugar, Powdered	698	CI	370
Thorium, 1.2%, O2	518	CI	270 430	Tung, Kernels, Oil-Free	464		240
Tin, 96%, atomized (2% Pb) Titanium, 99%	806 626	CI	330	Walnut Shell, Black	428		220
Titanium Hydride, (95% Ti, 3.8% H2)	896	CI	480	Wheat Wheat Flour	428 680		220 360
Vanadium, 86.4%	914	Ci	490	Wheat Gluten, gum	968	NL	520
Zirconium Hydride, (93.6% Zr, 2.1% H2)	518		270	Wheat Starch	716	NL	380
	010			Wheat Straw	428	INL	220
Class II, Group F				Woodbark, Ground	482		250
CARBONACEOUS DUSTS	050	01	F40	Wood Flour	500		260
Asphalt, (Blown Petroleum Resin)	950	CI	510	Yeast, Torula	500		260
Charcoal	356		180	CHEMICALS			
Coal, Kentucky Bituminous Coal, Pittsburgh Experimental	356 338		180 170	Acetoacetanilide	824	М	440
Coal, Wyoming	_		_	Acetoacetamilde Acetoacet-p-phenetidide	1040	NL	560
Gilsonite	932		500	Adipic Acid	1022	M	550
Lignite, California	356		180	Anthranilic Acid	1076	M	580
Pitch, Coal Tar	1310	NL	710	Aryl-nitrosomethylamide	914	NL	490
Pitch, Petroleum	1166	NL	630	Azelaic Acid	1130	M	610
Shale, Oil	_		_	2,2-Azo-bis-butyronitrile	662		350
Class II, Group G				Benzoic Acid	824	M	440
AGRICULTURAL DUSTS				Benzotriazole	824	M	440
Alfalfa Meal	392		200	Bisphenol-A	1058	M	570
Almond Shell	392		200	Chloroacetoacetanilide	1184	M	640
Apricot Pit	446		230	Diallyl Phthalate	896	M	480
Cellulose	500		260	Dicumyl Peroxide (suspended on CaCO3),	356		180
Cherry Pit	428		220	40-60	700	N.II	400
Cinnamon	446		230	Dicyclopentadiene Dioxide	788 806	NL NL	420 430
Citrus Peel	518		270	Dihydroacetic Acid Dimethyl Isophthalate	1076	M	580
Cocoa Bean Shell	698		370	Dimethyl Terephthalate	1058	M	570
Cocoa, natural, 19% fat	464		240	3,5 - Dinitrobenzoic Acid	860	NL	460
Coconut Shell	428		220	Dinitrotoluamide	932	NL	500
Corn	482		250	Diphenyl	1166	M	630
Corncob Grit	464		240	Ditertiary Butyl Paracresol	878	NL	470
Corn Dextrine	698		370	Ethyl Hydroxyethyl Cellulose	734	NL	390
Cornstarch, commercial Cornstarch, modified	626 392		330 200	Fumaric Acid	968	M	520
Cork	392 410		210	Hexamethylene Tetramine	770	S	410
Cottonseed Meal	392		200	Hydroxyethyl Cellulose	770	NL	410
Cube Root, South Amer.	446		230	Isotoic Anhydride	1292	NL	700
Flax Shive	446		230	Methionine	680		360
Garlic, dehydrated	680	NL	360	Nitrosoamine	518	NL	270
Guar Seed	932	NL	500	Para-oxy-benzaldehyde	716	CI	380
Gum, Arabic	500		260	Paraphenylene Diamine	1148	M	620
Gum, Karaya	464		240	Paratertiary Butyl Benzoic Acid	1040	M	560
Gum, Manila (copal)	680	CI	360	Pentaerythritol	752	M	400
Gum, Tragacanth	500		260	Phenylbetanaphthylamine	1256	NL	680
Hemp Hurd	428		220	Phthalic Anydride	1202	M	650
•	-		-	Phthalimide	1166	M	630

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General Information

Reference Information Dusts – Hazardous Substances Used in Business and Industry

TABLE II	Minim	um Clo		
Layer Ignition Temp.† Waterial* °F °C				Material*
Class II, Group G (cont'd)	•			Class II, Gr
Salicylanilide	1130	М	610	Chlorinated
Sorbic Acid	860	IVI	460	Chlorinated
Stearic Acid, Aluminum Salt	572		300	
Stearic Acid, Zinc Salt	950	M	510	Nylon (Poly
Sulfur	428		220	Nylon Polym
Terephthalic Acid	1256	NL	680	Adipamide)
DRUGS				Polycarbon
2-Acetylamino-5-nitrothiazole	842		450	Polycarbona
2-Amino-5-nitrothiazole	860	N.4	460	Polyethyler
Aspirin Gulasonic Acid, Diacetone	1220 788	M NL	660 420	Polyethylen
Mannitol	860	M	460	Polyethylen
Nitropyridone	806	M	430	Polyethylen
1-Sorbose	698	М	370	Polymethyl
Vitamin B1, mononitrate	680	NL	360	Carboxypol
Vitamin C (Ascorbic Acid)	536		280	Polypropyle
DYES, PIGMENTS, INTERMEDIATES				Polypropyle
Beta-naphthalene-azo-Dimethylaniline	347		175	Rayon Resi
Green Base Harmon Dye	347 347		175 175	Rayon (Visc
Red Dye Intermediate /iolet 200 Dye	347		175	Styrene Re
PESTICIDES				Polystyrene
Benzethonium Chloride	716	CI	380	Polystyrene
Bis(2-Hydroxy-5-chlorophenyl) methane	1058	NL	570	Styrene-Acr
Crag No. 974	590	CI	310	Styrene-But Alum Coa
Dieldrin (20%)	1022	NL	550	
2, 6-Ditertiary-butyl-paracresol	788	NL	420	Vinyl Resin
Dithane	356		180	Polyvinyl Ac
Ferbam	302 248		150 120	Polyvinyl Ac Polyvinyl Bu
Manganese Vancide Sevin	284		140	Vinyl Chloric
· Trithiobis (N,N-Dimethylthio-formamide)	446		230	Polyvinyl Ch
THERMOPLASTIC RESINS AND MOLDING	G COMP	OUND	S	Vinyl Toluen
Acetal Resins				Copolyme
Acetal, Linear (Polyformaldehyde)	824	NL	440	THERMOSI Allyl Resins
Acrylic Resins				Allyl Alcoho
Acrylamide Polymer	464	NL	240	•
Acrylonitrile Polymer	860		460	Amino Res Urea Forma
Acrylonitrile-Vinyl Pyridine Copolymer Acrylonitrile-Vinyl Chloride-	464		240	Urea Forma
Vinylidene Chloride Copolymer (70-20-10)	/10		210	Molding C
Methyl Methacrylate Polymer	824	NL	440	· ·
Methyl Methacrylate-Ethyl Acrylate				Epoxy Resi
Copolymer	896	NL	480	Epoxy Epoxy - Bis
Methyl Methacrylate-Ethyl Acrylate-Styrene				Phenol Furf
Copolymer	824	NL	440	Phenolic R
Methyl Methacrylate-Styrene-	896	NL	480	Phenol Forr
Butadiene-Acrylonitrile Copolymer				Phenol Forr
Methacrylic Acid Polymer	554		290	(Wood Flo
•	334		230	Phenol Forn
Cellulosic Resins	644		240	Polyamine
Cellulose Acetate Cellulose Triacetate	644 806	NII	340 430	Polyester F
Cellulose Acetate Butyrate	806 698	NL NL	430 370	Polyethylen
Cellulose Propionate	860	NL	460	Styrene Mo
	608	CI	320	Mixture
Ethyl Cellulose				
Ethyl Cellulose Methyl Cellulose	644		340	Polyuretha
			340 290	Polyurethan Polyurethan

	Minimu Layer Iç		Temp.†
Material*	°F		°C
Class II, Group G (cont'd)			
Chlorinated Polyether Resins Chlorinated Polyether Alcohol	860		460
Nylon (Polyamide) Resins Nylon Polymer (Polyhexa-methylene Adipamide)	806		430
Polycarbonate Resins Polycarbonate	1310	NL	710
Polyethylene Resins Polyethylene, High Pressure Process Polyethylene, Low Pressure Process Polyethylene Wax	716 788 752	NL NL	380 420 400
Polymethylene Resins Carboxypolymethylene Polypropylene Resins	968	NL	520
Polypropylene (No Antioxidant)	788	NL	420
Rayon Resins Rayon (Viscose) Flock	482		250
Styrene Resins Polystyrene Molding Cmpd. Polystyrene Latex Styrene-Acrylonitrile (70-30) Styrene-Butadiene Latex(>75% Styrene; Alum Coagulated)	1040 932 932 824	NL NL NL	380 570
Vinyl Resins Polyvinyl Acetate Polyvinyl Acetate/Alcohol Polyvinyl Butyral Vinyl Chloride-Acrylonitrile Copolymer Polyvinyl Chloride-Dioctyl Phthalate Mixture Vinyl Toluene-Acrylonitrile Butadiene Copolymer	1022 824 734 878 608	NL NL NL	550 440 390 470 320 530
THERMOSETTING RESINS AND MOLDING	COMPO	DUNDS	i
Allyl Resins Allyl Alcohol Derivative (CR-39)	932	NL	500
Amino Resins Urea Formaldehyde Molding Compound Urea Formaldehyde-Phenol Formaldehyde Molding Compound (Wood Flour Filler)	860 464	NL	460 240
Epoxy Resins Epoxy Epoxy - Bisphenol A Phenol Furfural	1004 950 590	NL NL	540 510 310
Phenolic Resins Phenol Formaldehyde Phenol Formaldehyde Molding Cmpd. (Wood Flour Filler) Phenol Formaldehyde, Polyalkylene- Polyamine Modified	1076 932 554	NL NL	580 500 290
Polyester Resins Polyethylene Terephthalate Styrene Modified Polyester-Glass Fiber Mixture	932 680	NL	500 360
Polyurethane Resins Polyurethane Foam, No Fire Retardant Polyurethane Foam, Fire Retardant	824 734		440 390

G General Information

Reference Information Dusts – Hazardous Substances Used in Business and Industry

TABLE II

Material*	Minimur Layer Ig °F		
Class II, Group G (cont'd)			
SPECIAL RESINS AND MOLDING COMPO	UNDS		
Alkyl Ketone Dimer Sizing Compound	320		160
Cashew Oil, Phenolic, Hard	356		180
Chlorinated Phenol	1058	NL	570
Coumarone-Indene, Hard	968	NL	520
Ethylene Oxide Polymer	662	NL	350
Ethylene-Maleic Anhydride Copolymer	1004	NL	540
Lignin, Hydrolized, Wood-Type, Fines	842	NL	450
Petrin Acrylate Monomer	428	NL	220
Petroleum Resin (Blown Asphalt)	932		500
Rosin, DK	734	NL	390
Rubber, Crude, Hard	662	NL	350
Rubber, Synthetic, Hard (33% S)	608	NL	320
Shellac	752	NL	400
Sodium Resinate	428		220
Styrene — Maleic Anhydride Copolymer	878	CI	470

[†] Normally, the minimum ignition temperature of a layer of a specific dust is lower than the minimum ignition temperature of a cloud of that dust. Since this is not universally true, the lower of the two minimum ignition temperatures is listed. If no symbol appears between the two temperature columns, then the layer ignition temperature is shown. "Cl" means the cloud ignition temperature is shown. "NL" means that no layer ignition temperature is available and the cloud ignition temperature is shown. "M" signifies that the dust layer melts before it ignites; the cloud ignition temperature is shown. "S" signifies that the dust layer sublimes before it ignites; the cloud ignition temperature is shown.

* Certain metal dusts may have characteristics that require safeguards beyond those

Data from NFPA 499 - "Recommended Practice for the Classification of Flammable Liquids, Gases or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas".

^{*} Certain metal dusts may have characteristics that require safeguards beyond those required for atmospheres containing the dusts of aluminum, magnesium, and their commercial alloys. For example, zirconium, thorium, and uranium dusts have extremely low ignition temperatures (as low as 20°C and minimum ignition energies lower than any material classified in any of the Class I or Class II groups.

G

Reference Information Standard Materials and Finishes

Standard Materials and Finishes

Eaton's Crouse-Hinds offers products of numerous types of materials with numerous finishes to have an offering for virtually all types of applications.

The information below summarizes some of the most commonly used materials and finishes. For information relating to materials and finishes for a particular product or product family, consult the specific catalog page.

Standard Finishes:

Zinc Electroplate and Aluminum Acrylic Paint:

- · Electrolytically deposited zinc plate
- Finished with aluminum acrylic paint on all cast Feraloy® iron alloy products unless otherwise specified

Electrogalvanized and Chromate Treatment:

· Applied to steel parts

Zinc Chromate Primer and Aluminum Acrylic Paint:

· Applied to certain ferrous castings

Zinc Mechanical Plating:

 Applied to certain ferrous castings and steel parts

Hot Dip Galvanize:

· Zinc plate by dipping in molten zinc

Natural Finish:

Unplated, unpainted (non-ferrous metals only)

Corro-free™ Epoxy Powder Coat:

 Corro-free™ powdered epoxy finish is applied electrostatically, resulting in a tough, durable coating. Powder epoxy finish has many advantages over enamel, lacquer, aluminum paint, or epoxy paint. Powder epoxy finish has superior adhesion. Coating over the entire casting is uniform, even in hidden crevices. Electrostatic application reduces galvanic action.

Standard Materials:

Feraloy® Iron Alloy:

- Feraloy, an Eaton's Crouse-Hinds proprietary gray-iron alloy, offers strength, versatility, adaptability, and economy. Cast iron generally resists corrosion from alkalies, organic compounds, neutral and slightly acidic solutions, and certain concentrated acids and neutral brines. Cast Feraloy products are normally supplied with a finish of electrolytically deposited zinc plate covered with an aluminum acrylic paint. Physical properties similar to ASTM-A48 Class 30A (30,000 psi tensile)
- Feraloy iron alloy with zinc electroplate or hot dip galvanized finish resists corrosion.

Aluminum:

- Proper-free aluminum is particularly resistant to salt atmospheres, sulfur gases and ammonium nitrate. Eaton's Crouse-Hinds' copper-free aluminum alloy contains a maximum of ∜10 of 1% copper. Above this level, the rate of corrosion due to galvanic action within the structure of the metal increases rapidly. Eaton's Crouse-Hinds' copper-free aluminum products provide optimum protection against galvanic corrosion.
- Sand cast copper-free contains maximum of ⁴/₁₀ of 1% copper (21,000-25,000 psi tensile)
- Permanent mold copper-free contains maximum of \$\psi_{10}\$ of 1% copper (21,000-25,000 psi tensile).
- Die-cast copper-free ASTM B85 except with maximum of 4/10 of 1% copper

Krydon® Material:

 Krydon is the trade name for Eaton's Crouse-Hinds' properietary formulation of fiberglass-reinforced polyester. It is specifically formulated for electrical products intended for use in the harshest corrosive environments. Krydon material has proven itself superior to all other commercially available materials used in corrosive environments.

Besides being corrosion resistant, *Krydon* material has high impact strength, is fire retardant, heat resistant and withstands weathering – even over extended periods of time.

Brass:

• ASTM B16

Diallyl Phthalate (DAP):

• Acme #1-502 compound or equal

Glass-Filled Alkyd:

• Glaskyd #3001 or equal

Malleable iron:

ASTM A47

Neoprene:

• ASTM D2000

Nylon:

• Type %

Silicon Bronze:

- This metal was developed for structural and engineering uses requiring metals with high strength and fabrication capabilities, along with a corrosion resistance equal to that of copper. Silicon bronze is resistant to most dry gases and has excellent marine, industrial and rural atmospheric corrosion resistance. With variation of temper and chemical composition, a variety of nonmagnetic, high strength, readily fabricated copper-silicon alloys can be achieved.
- ASTM B584

Stainless Steel:

- Turned (bar) ASTM A582
- Stamped (sheet) ASTM A167

Tellurium Copper:

ASTM B301

Vellum:

• ASTM F104

Vestamid™:

Thermoplastic polymer, corrosion and weather resistant

Wrought Aluminum:

- Turned (bar) ASTM B211
- Stamped (sheet) ASTM B209

Wrought Steel:

- Turned (bar) ASTM A108 leaded
- Stamped (sheet) ASTM A366

G General Information

Reference Information Corrosion Resistant Materials

Eaton's Crouse-Hinds Products Available in Corrosion Resistant Materials

The following guide is intended as a convenient aid in quickly selecting the material or finish best suited to reducing your corrosion problem. Refer to previous page for more detailed information on standard materials and finishes available for all products.

Products Material Guide	Krydon	Product Quick Selector Copper-Free Aluminum	Feraloy	Corro-Free Epoxy Coating	Engineered Plastics
Conduit Outlet Bodies & Boxes	•	•	•	•	
Cable & Cord Fittings	•	•	•	•	
Enclosures and Junction Boxes	•	•	•	•	
Unions, Couplings, Plugs, Grounding Devices & Seals	•	•	•		
Motor Control & Circuit Breakers	•	•	•	•	
Control Stations	•	•	•	•	•
Panelboards	•	•	•	•	•
Switches	•	•	•	•	• †
LED Luminaires	•	•	•	•	
Incandescent Luminaires	•	•	•	•	
Fluorescent Luminaires		•	•	•	• *
HID Luminaires		•	•	•	• *
Lighting Accessories	•	•	•	•	
Heavy Duty Plugs & Receptacles	•	•	•	•	
Interlocked Plugs & Receptacles	•	•	•	•	• †
Emergency Lighting	•	•	•	•	

Product types shown above are available as standard in materials indicated. Availability of those not shown depends on specific requirements. †CSR Compact Interlock and NSR disconnect switches manufactured from Valox®*N2MV Champ lighting fixtures available in PPS.

General Information

Reference Information General Guide for Product Material Selection

When designing a new facility or improving an old one, corrosion control can mean the difference between trouble-free operation and costly downtime. At Eaton's Crouse-Hinds, our years of experience in corrosion control can help you reduce equipment failures, costly repairs and loss of production.

The general guide below can help you in selecting the most suitable material for products used in corrosive environments.

difference between and costly downtime		le-fre	ee ope	eration	1	you reduce equipment failures, costly repairs and loss of production.				products used in corrosive enviroments.						is.		
A = Excellent B =	= Goo	d	C = A	Adequ	uate	D =	Unsat	isfact	ory									
	Krydon	Copper-Free .	Feraloy Aluminum	Corro-Fleo	Silicon Bronzo Coating	316 Stall	pps salass Steel	Valox 351		Krydon	Corr	Feraloy Conper-Free Aluminum	Corro-Fi Co	Silicon Brown Coating	316 Stall 1007	pps	Valox 357	1
CHEMICAL ATMOSPHERE										CHEMICAL ATMOSPHERE								
Acetic Acid		Α	С	С	С	С	Α	Α	Α	Calcium Sulfate	Α	Α	Α	Α	Α	В	В	В
Acetic Anhydride		Α	Α	D	С	С	Α	Α	С	Cane Sugar Liquors	Α	Α	Α	Α	Α	Α	Α	В
Acetone		Α	Α	Α	С	Α	Α	Α	С	Carbon Dioxide, Dry	Α	Α	Α	Α	Α	Α	В	Α
Acetylene		Α	Α	Α	Α	D	Α	Α	В	Carbon Dioxide, Wet	Α	Α	В	Α	С	Α	С	Α
Aluminum Chloride		Α	D	D	Α	С	D	Α	В	Carbon Disulfide	Α	Α	В	С	С	В	В	С
Aluminum Sulfate		Α	С	D	Α	С	В	Α	В	Carbon Tetrachloride	Α	Α	В	С	Α	Α	С	С
Ammonium Carbona	ate	Α	Α	Α	Α	D	Α	С	С	Carbonic Acid	Α	Α	В	Α	С	В	С	В
Ammonium Chloride	Э	Α	D	D	Α	D	D	Α	С	Castor Oil	Α	Α	Α	Α	Α	В	Α	В
Ammonium Hydroxi	de	Α	Α	В	Α	D	В	Α	D	Chlorine	Α	D	Α	В	D	В	D	С
Ammonium Nitrate		Α	Α	В	Α	D	Α	Α	В	Chloroform	В	В	С	В	Α	С	С	D
Ammonium Phosph	ate	Α	С	В	Α	D	В	Α	В	Citric Acid	Α	Α	D	Α	Α	В	Α	Α
Amyl Acetate		Α	Α	В	С	Α	Α	Α	D	Cottonseed Oil	Α	Α	Α	Α	Α	В	В	С
Amyl Alcohol		Α	Α	Α	Α	Α	В	В	D	Chromic Acid	Α	В	В	С	D	С	В	D
Aniline		Α	В	D	В	С	Α	Α	D	Crude Oil	Α	Α	Α	Α	Α	Α	Α	С
Arsenious Acid		Α	Α	D	Α	С	В	D	В	Ethyl Acetate	Α	Α	Α	С	Α	В	Α	D
Asphalt		Α	Α	Α	Α	Α	Α	В	Α	Ethyl Alcohol	Α	Α	Α	Α	Α	Α	В	В
Barium Carbonate		Α	D	Α	Α	Α	В	В	В	Ethyl Chloride	Α	В	В	В	Α	Α	В	В
Barium Chloride		Α	D	D	Α	С	В	В	Α	Ethylene Dichloride	В	Α	Α	С	Α	В	В	D
Barium Hydroxide		Α	D	Α	Α	Α	Α	В	С	Ethylene Glycol	Α	Α	Α	Α	Α	В	Α	В
Beer		Α	Α	Α	Α	Α	Α	В	Α	Fatty Acids	Α	Α	В	Α	С	В	Α	С
Beet Sugar Liquors		Α	Α	Α	Α	Α	Α	В	Α	Ferric Chloride	Α	D	D	Α	D	D	В	В
Benzene		Α	Α	Α	С	Α	Α	Α	D	Ferric Sulfate	Α	D	D	Α	D	В	Α	В
Benzoic Acid		Α	Α	D	Α	Α	Α	Α	D	Formaldehyde	Α	Α	В	Α	Α	В	В	D
Borax		Α	В	Α	Α	Α	Α	В	Α	Formic Acid	Α	В	D	Α	Α	В	С	В
Boric Acid		Α	В	Α	Α	Α	В	В	В	Freons, Dry	Α	Α	Α	Α	Α	В	Α	Α
Bromine, Wet		В	D	D	С	С	D	D	D	Fuel Oil	Α	Α	Α	Α	Α	В	В	Α
Butane		Α	Α	Α	Α	Α	В	В	В	Furfural	D	Α	Α	С	Α	В	Α	С
Butyl Alcohol		Α	Α	В	Α	Α	Α	В	Α	Gasoline	Α	Α	Α	Α	Α	Α	Α	Α
Butyric Acid		Α	Α	D	С	Α	В	Α	В	Glue	Α	Α	Α	Α	Α	В	В	В
Calcium Bisulfite		Α	Α	D	Α	С	D	В	В	Glycerine	Α	Α	Α	Α	Α	Α	Α	С
Calcium Chloride		Α	С	В	Α	Α	D	Α	Α	Concd. Hydrochloric Acid	С	D	D	С	D	D	D	В
Calcium Hydroxide		Α	D	Α	Α	Α	В	Α	В	Hydrofluoric Acid	D	D	D	С	D	D	С	D
										· 								

Calcium Hypochlorite A B D A C D D C Hydrogen

A A A A A A A

General Information G

Reference Information General Guide for Product Material Selection

When designing a new facility or improving an old one, corrosion control can mean the difference between trouble-free operation and costly downtime.

At Eaton's Crouse-Hinds, our years of experience in corrosion control can help you reduce equipment failures, costly repairs and loss of production.

The general guide below can help you in selecting the most suitable material for products used in corrosive enviroments.

A = Excellent B = Good C = Adequate D = Unsatisfactory

A = Excellent $B = Go$			Adequ			Unsat	sfacto	ory
Krydon	Copper	Feraloy Eree Aluminum		Silicon Bronne	316 Stailing	pps Steel	Valox 351	1
CHEMICAL ATMOSPHERE				Q				
Hydrogen Peroxide	Α	Α	D	С	С	В	D	С
Hydrogen Sulfide	Α	Α	С	Α	В	В	В	С
Kerosene	Α	Α	Α	Α	Α	В	Α	С
Ketones	Α	Α	Α	С	Α	В	Α	D
Lacquers	Α	Α	В	Α	Α	Α	С	В
Lacquer Solvents	Α	Α	В	С	Α	Α	С	С
Lactic Acid	Α	В	D	В	В	В	Α	В
Lime	В	В	Α	В	Α	В	С	С
Linseed Oil	Α	Α	Α	Α	Α	В	Α	Α
Magnesium Chloride	Α	В	D	Α	Α	В	Α	В
Magnesium Hydroxide	Α	D	Α	Α	Α	Α	Α	С
Magnesium Sulfate	Α	Α	Α	Α	Α	В	Α	В
Marine Atmosphere	Α	Α	D	Α	Α	В	Α	Α
Mercuric Chloride	Α	D	D	Α	D	D	D	В
Mercury	Α	D	В	Α	D	Α	D	В
Methyl Alcohol	Α	Α	Α	Α	Α	В	В	D
Methyl Chloride	В	D	В	D	В	Α	Α	D
Methyl Ethyl Ketone	Α	Α	В	В	Α	В	В	D
Mine Waters	Α	В	D	В	В	Α	В	В
Motor Oil	Α	Α	Α	Α	Α	В	Α	Α
Nickel Chloride	Α	D	D	Α	D	D	D	Α
Nickel Sulfate	Α	D	D	Α	С	В	В	В
Nitric Acid	С	Α	D	Α	D	В	D	В
Oleic Acid	Α	Α	В	Α	В	В	D	С
Oxalic Acid	Α	В	В	Α	Α	D	В	D
Oxygen	Α	Α	Α	Α	Α	В	В	Α
Perchloric Acid	Α	D	D	С	D	D	D	С
Phenol	Α	Α	В	В	Α	Α	Α	С
Phosphoric Acid	Α	D	С	В	В	С	В	С
Picric Acid	Α	Α	В	В	D	В	D	С
Potassium Carbonate	Α	В	Α	Α	Α	Α	Α	Α
Potassium Chloride	Α	D	В	Α	В	В	Α	В
Potassium Cyanide	Α	D	В	Α	D	В	Α	В
Potassium Hydroxide	С	D	Α	В	С	В	Α	В
Potassium Nitrate	Α	Α	Α	Α	В	В	Α	Α

CHEMICAL	Copper-	Feraloy	Corro-Fico	Silicon Brown Coating	316 Stalling	pps sless Steel	Valox 351	j
ATMOSPHERE								
Propane	Α	Α	Α	Α	Α	В	В	B
Rosin	Α	Α	В	Α	Α	Α	С	C
Sea Water	Α	В	D	Α	Α	В	Α	B
Sodium Bicarbonate	Α	Α	В	Α	Α	Α	Α	A
Sodium Bisulfate	Α	В	D	Α	A	В	В	
Sodium Bisulfite	A	В	D	Α	В	В	В	B
Sodium Carbonate	Α	С	A	Α	Α	В	A	A
Sodium Chloride	A	D	В	Α	A	В	Α	
Sodium Cyanide	A	D	В	A	D	A	В	B
Sodium Hydroxide	В	D	A	В	В	В	B	<u>C</u>
Sodium Hypochlorite	Α	D	D	В	В	С	D	
Sodium Nitrate	A	A	A	Α	В	В	A	A
Sodium Phosphate Sodium Silicate	A	D	A	A	В	В	В	B
	A	В	A	A	A	A	Α	B
Sodium Sulfate Sodium Sulfite	A	A	A B	A	A	A B	A	
Stearic Acid	A	A	В	A	В	A	A A	<u>В</u>
Sulfur	A	A	A	A	D	A	A A	<u>В</u>
Sulfur Dioxide, Dry	A	В	A	A	A	В	B	
Sulfur Trioxide, Dry	A A	A	A	A	A	В	С	
Sulfur Trioxide, Wet		D		В	C	С	C	
Sulfuric Acid	A	A	D	В	С	D	A	— В
Sulfurous Acid	A	В	D	В	В	D	В	B
Tannic Acid	A	A	В	A	A	В	В	
Tar	A	Α	A	Α	A	A	D	
Tartaric Acid	A	A	В	В	В	A		
Toluene	Α	Α	Α	С	Α	Α	Α	D
Trichlorethylene	Α	Α	В	С	Α	В	С	С
Turpentine	Α	Α	Α	Α	Α	Α	Α	С
Vegetable Oils	Α	Α	Α	Α	Α	Α	В	A
Vinegar	Α	В	В	Α	Α	В	В	A
Vinyl Chloride	Α	В	В	В	D	В	D	D
Waxes	Α	Α	Α	Α	Α	В	В	Α
Xylene	Α	Α	Α	С	Α	В	Α	D
Zinc Chloride	Α	В	В	Α	D	В	В	В
Zinc Sulfate	Α	В	В	Α	С	Α	С	Α
					_			

A A A A A

Potassium Sulfate

Α

Reference Information Enclosure Type/Levels of Protection

Enclosure Type: NEMA, CEC and NEC Types

A North American system of rating standard levels of protection provided to electrical apparatus by enclosures for (1) the protection of persons against contact with live or moving parts inside the enclosure; (2) the protection provided by enclosure against ingress of solids and/or liquids; (3) the protection provided by the enclosure against the deleterious effects of corrosion; and (4) the protection provided by the enclosure against damage due to the formation of external ice. This enclosure type is in addition to (and not an alternative to) the types of protection necessary to ensure protection against ignition in hazardous (classified) locations.

The chart below shows typical NEMA, CEC and NEC types of enclosure.

NEMA Classification							
Typical NEMA, CEC and NEC types of enclosures are listed below:							
• Type 3 Enclosure are intended for outdoor use primarily to provide a degree of protection against dust, rain, sleet, and	external formation.						
Type 3R Enclosure are intended for outdoor use primarily to provide a degree of protection against falling rain, and externation (these enclosures may be ventilated).	nal ice formation						
Type 4 Enclosure are intended for indoor or outdoor use primarily to provide a degree of protection against windblown splashing water, hose-directed water, and external ice formation.	dust and rain,						
Type 4X Enclosure are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, vand rain, splashing water, hose-directed water, and external ice formation.	windblown dust						
• Type 7 Enclosure are for use in indoor locations classified as Class I, Groups A, B, C, or D, as defined in the National E	lectrical Code®.						
• Type 9 Enclosure are for use in indoor locations classified as Class II, Groups E, F, or G, as defined in the National Elec	ctrical Code®.						
Type 12 Enclosure are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dinnocorrosive liquids.	ripping						

Degree of Protection (IP):

The Ingress Protection (IP) System of Enclosure Protection originated under the IEC system. However, it is now widely accepted and used in North America.

It is a system of rating standard levels of protection provided by apparatus for the protection of persons against contact with live or moving parts inside the apparatus, as well as the protection provided by apparatus against ingress of solids and/or liquids. This type of protection classification is in addition to (and not an alternative to) the types of protection necessary to ensure protection against ignition in hazardous (classified) locations.

The chart below shows ingress protection codes.

Ingress Protection: (IP) Codes

First Numeral Protection against solid bodies	Second Numeral Protection against liquid
0 – NO PROTECTION	0 - NO PROTECTION
1 - OBJECTS EQUAL TO OR GREATER THAN 50mm	1 - VERTICALLY DRIPPING WATER
2 - OBJECTS EQUAL TO OR GREATER THAN 12.5mm	2 – 75 TO 105° ANGLED DRIPPING WATER
3 – OBJECTS EQUAL TO OR GREATER THAN 2.5mm	3 – SPRAYING WATER
4 – OBJECTS EQUAL TO OR GREATER THAN 1.0mm	4 – SPLASHING WATER
5 – DUST-PROTECTED	5 – WATER JETS
6 - DUST-TIGHT	6 - HEAVY SEAS, POWERFUL WATER JETS
	7 – EFFECTS OF IMMERSION
	8 – INDEFINITE IMMERSION

i.e. An enclosure rated IP68 is rated to exclude dust (dust-tight) and rated for indefinite immersion.

G General Information

Reference Information Quality, Compliances & Third Party Certifications

Statement of Accuracy

The information published in this catalog and other literature has been compiled with great care and is sufficiently accurate for most purposes, but is not guaranteed. All statements, technical information and recommendations contained herein are based on information and tests we believe to be reliable. This catalog and the products contained within is subject to change without notice. The purchaser should determine the suitability of the product for his or her application and assumes all risk and liability whatsoever in connection therewith.

Compliances and Third Party Certifications

The products described in this catalog are of the highest possible quality. Eaton's Crouse-Hinds products have been tested and field proven in a wide variety of applications. Products are designed and manufactured to meet or exceed, in numerous products, multiple worldwide standards.

- The designs of Eaton's Crouse-Hinds products are original and proprietary.
 Some are patented.
- The product information in this catalog, though current at the catalog printing, is subject to improvements and modifications. Due to the breadth of our product offering with regard to the design, materials, components and the variations of these products available to our customers, it is impractical to adequately identify third-party certification of all items in this publication.
- Product improvements and other developments may, at times, affect thirdparty approval of testing laboratories such as Underwriters Laboratories, the Canadian Standards Association, Factory Mutual and others. To avoid publishing possibly superseded product certification information, Eaton's Crouse-Hinds has elected not to show specific certification references in this catalog.
- Eaton's Crouse-Hinds products are designed to meet or exceed the performance requirements of applicable standards. Where the term "compliances" is used in this catalog in conjunction with a UL/CSA standard number, it identifies the criteria which have governed the design and Company testing of the products listed on that page.
- The term "compliances" is not to be construed to mean that the products have been listed by the Underwriters' Laboratories/CSA. Such listing is a matter of independent record signified by product marking, carton marking, or other approved means.
- The individual product offerings in this catalog comply with the national and third-party standards identified under the 'Certifications and Compliances' sections. To obtain specific third-party approval information for these products, contact Eaton's Crouse-Hinds or the applicable agency.

Worldwide Testing Authorities

Country	Testing Authority
USA	Underwriters
	Laboratories
USA	Factory Mutual
USA	ETL
Canada	CSA
Mexico	ANCE
Austria	TUV-A
Austria	BVFA
Belgium	ISSEP
Denmark	DEMKO
Finland	VTT
China	NEPSI
Korea	KOSHA
Russia	GOST-R
Kazakhstan	GOST-K

Country	Testing Authority
France	INERIS
France	LCIE
Italy	CESI
Netherlands	KEMA
Norway	NEMKO
Spain	LOM
Sweden	SP
United Kingdom	BASEEFA/EECS
United Kingdom	SIRA
Germany	PTB
Germany	BVS
Hungary	BKI

Industrial Fittings Section F

Time-tested and innovative conduit fittings, cord connectors and cable glands move power where you need it simply and safely in any electrical installation.



New Products in the Industrial Fittings Product Line

• Terminator™ II TMCX Cable Glands

Section

Electrical Fittings

Table of Contents

Section F of the Eaton's Crouse-Hinds Product Catalog lists a wide variety of conduit outlet bodies and boxes, cable fittings, unions, connectors, seals, breathers, and drains for both hazardous and non-hazardous area use. Information on applications, features, standard materials, standard finishes, options, size ranges, compliances, and accessories is presented for ease of product selection. Information relating to product families in Section F is grouped as follows:

Section 1F

Condulet® Conduit Bodies and Outlet Boxes

(for non-hazardous areas)

Conduit bodies for installation in conduit systems to act as pull outlets, make 90° bends, provide for splices, taps, mounting outlets, etc.

Form 7	Mogul	SLB
Form 8	LBD	LBY
Mark 9	LBNEC	ET
Form 5		

Form 5 Series 5

Form 7 SnapPack

Round cast outlet boxes and accessories for use in conjunction with threaded rigid conduit to serve as junction boxes, pull outlets, accommodate wiring devices and support lighting fixtures.

GRF VXF

Section 2F

Condulet Device Boxes

(for non-hazardous areas)

For installation in conduit systems to:

- · Accommodate wiring devices
- · Act as pull boxes
- Provide openings for taps and splices

Provided in two box depths with a wide variety of hub configurations and sizes. Boxes can accommodate single or multiple devices.

FS FD Covers

Section 3F

Condulet Conduit Bodies and Outlet Boxes

(for hazardous areas)

For use with rigid conduit systems:

- Act as pull and splice boxes
- · Act as mounting outlets or supports for lighting fixtures
- Act as sealing fittings

CPS	ET	LBH	STL
EAB	GUA	LBY	EAJ
EKC	HTL	OE	GUR

Section 4F

Cable Glands and Cable Accessories

(for hazardous and non-hazardous areas) Includes listings of cable and cord connectors and cable terminators for armoured and unarmoured cable and cord, and aluminum sheathed cable. Used to:

- Provide means for passing cord, cable or flexible conduit through bulkhead and into boxes and cabinets
- Form watertight seal
- Form non-slip connection or termination for flexible cord, cable or flexible conduit
- · Provide grounding continuity

ADE 1F	ADE 6FC	LCC	TMC
ADE 4F	CGB	LCCF	Terminator™ II TMCX
ADE 6F	CGFP	TGC	TMCX
ADE 1FC	EBY	THRU-WALL	

Section 5F

Elbows, Couplings, Hubs, Grounding Devices, Plugs, Reducers, Service Entrance and Unions

(for hazardous and non-hazardous areas)

Includes:

- Service entrance heads
- Grounding receptacles and straps
- Unions and elbows for threaded conduit systems
- Couplings for use where allowance must be made in conduit system for difficult bends or vibration
- Reducers for connecting conduit of different dimensions
- Plugs for unused conduit openings and hubs

ECGJH	GC	LNR	UNA	UNY
ECLK	GCR	PLG	UNF	UNYL
EL	GCT	RE	UNFL	XD
F	HUBS	REC	UNL	XJG

Section 6F

Seals, Breathers and Drains

(for hazardous areas)

Includes:

- Seals used to prevent passage of gases or flames in conduit runs and from device enclosures
- Sealing/drain fittings for retrofit applications
- Breathers used to provide ventilation for enclosures
- Drains used to prevent accumulation of moisture in conduit systems and enclosures
- Chico® sealing compound and fiber

Seal	Seal and drain	Breather
EYS	EYD	and drain
EZS	EZD	ECD
EYSR	EYDX	CD
FYSX		

Secondary Process Sealing Fitting

EYS Tool Kit

Condulet® Conduit Bodies and Outlet Boxes Non-Hazardous

Description	Page No
Application/Selection	see page 4
Shape Selector Chart	see page 5
Conduit Bodies - Cast Iron or Aluminum Forms 7 & 8, Mark 9, Series 5 and Form 5 Form 7 SnapPack™ Mogul Series LBD Series LBNEC Mogul Pulling Elbows	see pages 6–81 see page 9 see pages 13–14 see page 15 see page 16
Covers for Cast Iron or Aluminum Conduit Bodies Blank Forms 7 & 8, Mark 9, Series 5 and Form 5 Mogul Series	see page 8 see pages 13-14
Gaskets for Cast Iron or Aluminum Conduit Bodies Forms 7 & 8, Mark 9, Series 5 and Form 5 LBD Series Mogul Series	see page 8 see page 15 see pages 13-14
Conduit Bodies, Covers and Gaskets - Stainless Steel	see pages 17-27
Condulet® Outlet Boxes GRF Series VXF Series	see page 19 see page 19
Service Entrance Elbows & Tees ET Tees LBY & SLB Elbows	see page 20 see page 20

Application and Selection

Applications:

Conduit bodies and outlet boxes are installed at appropriate locations in threaded rigid conduit systems to:

- · Act as pull outlets for conductors to be installed in a conduit
- Provide openings for splices and taps in conductors
- Act as mounting outlets for luminaires and wiring devices, or as support for luminaires (with hub and fixture hanging covers)
- Act as junction or fuse boxes when fitted with connection blocks or fuse blocks
- Connect conduit sections and change direction of conduit runs
- Make 90° bends in conduit runs
- Provide access to conductors for maintenance and future system changes

Considerations for Selection:

- Shape required determine from configuration of conduit system and intended function of conduit bodies or outlet boxes
- Size required determine from conduit and conductor size
- Material required determine from environmental conditions (corrosive fumes, buried in concrete, etc.)

Quick Selector Chart - Conduit Bodies

Series	Conduit Sizes	Configuration Styles	Standard Material
Form 7	1/2" - 4"	C, E, L, LB, LL, LR, T, TA, TB and X	Feraloy® iron or aluminum
Form 8	1/2" - 4"	C, LB, LL, LR, T, TB and X	Feraloy iron
Mark 9	1/2" - 4"	C, LB, LL, LR, T, TB and X	Copper-free aluminum
Form 5	1/2" - 4"	C, LB, LL, LR, T, TB and X	Durable malleable iron construction
Series 5	1/2" - 4"	C, LB, LL, LR and T	Corrosion-resistant copper-free aluminum construction

Quick Selector Chart - Conduit Outlet Boxes

		Inside Dimensions								
Series	Conduit Sizes	Depth Dia.		Depth Dia.				Standard Material	Finish	Covers
VXF	1/2 and 3/4	13/4	41/4	4 or 5	S	Copper-free aluminum	Epoxy enamel	When box is used as junction or pull box, install GRF covers, gaskets.		
GRF	½ to 1	1% to 3%	311/16	0 to 4	S-F	Feraloy iron alloy or aluminum	Electrogalvanized and aluminum paint	Blank, hub, standard 4" octagonal box covers, wiring devices, lighting fixture hangers, gaskets.		

Shape Selector Chart

Series	Page	Series	Page	Series	Page
С	7 9 5	T		GRF	2 00
Form 7 Form 8 Mark 9 Form 5 Series 5	see pages 6-12 see pages 6-12 see pages 6-12 see pages 6-12 see pages 6-12	Form 7 Form 8 Mark 9 Form 5 Series 5	see pages 6-12 see pages 6-12 see pages 6-12 see pages 6-12 see pages 6-12	Outlet Box	see page 19
E		ТВ	1.3 F-300 0 1E	ВТ	
	0			14_	0
Form 7	see pages 6-12		0	Mogul	see pages 13-14
LB		Form 7 Form 8 Mark 9 Form 5	see pages 6–12 see pages 6–12 see pages 6–12 see pages 6–12	LBD	-7
Form 7 Form 8	see pages 6-12 see pages 6-12	Х	EA.	1/2 - 1"	see page 15
Mark 9 Form 5 Series 5	see pages 6-12 see pages 6-12 see pages 6-12 see pages 6-12			LBD	
LL		Form 7 Form 8	see pages 6–12 see pages 6–12	1	1
,	0	Mark 9 Form 5	see pages 6–12 see pages 6–12	11/4 - 6"	see page 15
Form 7 Form 8 Mark 9 Form 5	see pages 6–12 see pages 6–12 see pages 6–12 see pages 6–12	LBNEC		SLB	
Series 5	see pages 6-12	LBNEC	see page 16	Service Entrance B	Elbows see page 20
LR	0	ВС		LBY	
Form 7 Form 8	see pages 6-12 see pages 6-12	Mogul	see pages 13-14		
Mark 9 Form 5 Series 5	see pages 6-12 see pages 6-12 see pages 6-12	BLB			
L			0	Service Entrance B	Elbows see page 20
		Mogul	see pages 13-14	ET	
Form 7	see pages 6-12	BUB			至
		Mogul	see pages 13-14	18.1	1
TA		VXF		Service Entrance I	Elbows see page 20
		0	6		
Form 7	see pages 6-12	Outlet Box	see page 19		

1F

Condulet® Conduit Bodies -Cast Iron or Aluminum

Gasket and Covers see page 8

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Applications:

Conduit outlet bodies are installed in conduit systems to:

- · Act as pull outlets for conductors being installed
- · Provide openings for making splices and taps in conductors
- · Connect conduit sections
- Provide taps for branch conduit runs
- Make 90° bends in conduit runs
- Provide for access to conductors for maintenance and future system changes

Features:

Conduit Outlet Bodies

- Form 7 Condulet outlet bodies approach conduit in size for neat, compact installations
- Form 8 and Mark 9 bodies provide more room for heavier conductors
- Many shapes and sizes are available for rigid threaded conduit for complete listings see pages 6–12
- Conduit hubs have tapered threads and feature integral bushings for protection of wire insulation
- Form 7 has exclusive snaptight and wedgenut cover attachment to provide clear, unobstructed cover opening
- Built-in rollers on all Form 5 11/4" to 4" C and LB bodies to facilitate wire pulling
- Series 5 bodies available in optional configuration with set screws on hubs for EMT conduit (add suffix -MT to catalog number)

Gaskets

Solid gaskets:

- · Are used with blank covers
- For Mark 9 and Form 5, can be converted to open type gaskets by tearing out center section along scored lines – ½" to 2" sizes
- For Form 7 are used with all covers

Open gaskets:

- For Form 8 1/2" to 4" sizes
- For Mark 9 21/2" to 4" sizes

Blank Covers

Stainless steel cover screws are standard on Form 7, Form 8, Mark 9, Series 5 and Form 5 covers.

• Form 7

Wedge nut design facilitates installation and removal. Nuts are held captive in cover. Covers can be used with or without gaskets. SNAPTIGHT™ Form 7 Covers with integral sealing gaskets are installed without the use of screws, reducing installation time and costs. Covers are reusable.

Form 8

Two cover screws provided on all sizes to provide tight cover and gasket assembly. *Feraloy* iron alloy covers have dome shapes for added strength and extra wiring room.

Mark 9

Self-retaining cover screws.

Certifications and Compliances:

Outlet Bodies -

- UL Standard: 514B
- Fed. Spec.: W-C-586D
- CSA Standard 22.2 No. 18
- NEMA 3R Raintight (when installed with cover and gasket)

Standard Materials:

- Form 7, Form 8 outlet bodies Feraloy iron alloy
- Mark 9 outlet bodies copper-free aluminum
- Form 5 malleable iron
- Series 5 die cast aluminum

Standard Finishes:

- Form 7, Form 8 outlet bodies electrogalvanized with aluminum acrylic paint
- Mark 9 outlet bodies natural
- Form 5 electrogalvanized with aluminum acrylic paint
- Series 5 aluminum acrylic paint

Options:

scription Suffix	D
rm 7 body and cover only:	F
pper-free aluminum SA	С
rro-free [™] epoxy powder coat - external body only	
rro-free™ epoxy powder coat - internal and external \$753	С
ries 5 in an EMT version with set screws on all hubs MT	S
ries 5 pre-packaged with neoprene gasket and cover CGN	S



Form 7



Mark 9



Form 8



Mogul

Condulet® Conduit Bodies -Cast Iron or Aluminum

Dimensions Pgs. See pages 10–12 (Dimensions for Form 5 – see Section CP)

Threaded Rigid	Bodie										
Shape	Style	Hub Siz	Z e	1	1 ¹ / ₄	1 ½	2	2 ¹ / ₂	3	31/2	4
Z .	C Form 7 Form 8 Mark 9 Form 5 Series 5	C17 C18 C19 C50M	C27 C28 C29 C75M C25	C37 C38 C39 C100M C35	C47 C448 C49 C125M* C45	C57 C58 C59 C150M*	C67 C68 C69 C200M*	C77 C78 C789 C250M*	C87 C88 C889 C300M*	C989 C350M* C95*	C1089 C400M* C105*
	E Form 7	E17	E27	E37							
	L Form 7	L17	L27	L37	L47	L57	L67				
		faced – m	ay be use	ed as LL or	r LR – has 2	2 openings,	one of whi	ch is furnisi	hed with a l	blank sheet	steel cove
			LB27 LB28 LB29 LB75M LB25	LB37 LB38 LB39 LB100M LB35	LB47 LB448 LB49 LB125M* LB45	LB57 LB58 LB59 LB150M* LB55	LB67 LB68 LB69 LB200M* LB65	LB777 LB78 LB789 LB250M* LB75	LB87 LB888 LB889 LB300M* LB85	LB97 LB98 LB989 LB350M* LB95	LB107 LB108 LB1089 LB400M* LB105
	Form 7 Form 8 Mark 9 Form 5 Series 5	LL17 LL18 LL19 LL50M	LL27 LL28 LL29	LL37 LL38 LL39	LL47 LL448 LL49 LL125M LL45	LL57 LL58 LL59 LL150M LL55	LL67 LL68 LL69 LL200M LL65	LL777 LL78 LL789 LL250M LL75	LL87 LL888 LL889 LL300M LL85	LL97 LL989 LL350M LL95	LL107 LL1089 LL400M LL105
0			LR27 LR28 LR29 LR75M LR25	LR37 LR38 LR39 LR100M LR35	LR47 LR448 LR49 LR125M LR45	LR57 LR58 LR59 LR150M LR55	LR67 LR68 LR69 LR200M LR65	LR777 LR78 LR789 LR250M LR75	LR87 LR888 LR889 LR300M LR85	LR97 LR989 LR350M LR95	LR107 LR1089 LR400M LR105
0	Form 7 Form 8 Mark 9 Form 5 Series 5	T17 T18 T19 T50M	T27 T28 T29 T75M T25	T37 T38 T39 T100M T35	T47 T448 T49 T125M T45	T57 T58 T59 T150M T55	T67 T68 T69 T200M T65	T77 T78 T789 T250M T75	T87 T88 T889 T300M T85	T97 T989 T350M T95*	T107 T1089 T400M T105*
0	TA Form 7	TA17	TA27	TA37	TA47	TA57	TA67				
7 8 1	TB Form 7 Form 8 Mark 9 Series 5 Form 5		TB27 TB28 TB29 TB25 TB75M	TB37 TB38 TB39 TB35 TB100M	TB47 TB448 TB49 TB45 TB125M	TB57 TB58 TB59 TB55 TB150M	TB67 TB68 TB69 TB65 TB200M				
	X Form 7 Form 8 Mark 9	X17 X18 X19 X15	X27 X28 X29 X25 X75M	X37 X38 X39 X35	X47 X448 X45 X125M	X57 X58 X55 X150M	X67 X68 X65 X200M				

^{* 11/4&}quot; - 4" Form 5 LB and C bodies are supplied with built-in rollers to facilitate wire pulling.

Condulet® Conduit Bodies - Cast Iron or Aluminum 1F

Covers and Gaskets Dimensions Pgs. See pages 10-12 (Dimensions for Form 5 - see Section CP)

Blank Covers







Sheet Steel

Size	Form 7 Wedgenut Cat. #	Form 7 Snaptight™ Covers‡ Cat. #	Form 7 Wedgenut w/Integral Gasket Cat. #	Form 8§ Cat. #	Form 8 w/Integral Gasket Cat. #	Form 5 w/Integral Gasket** Cat. #
1/2	170	170SG	170G	180	180G	K50SG
3/4	270	270SG	270G	280	280G	K75SG
1	370	370SG	370G	380	380G	K100SG
11/4	470	470SG	470G	480	480G	K125SG
11/2	570	570SG	570G	580	580G	K125SG
2	670	670SG	670G	680	680G	K200SG
21/2	870	870G		880		K250SG
3	870			880		K250SG
31/2	970	970G		980		K350SG
4	970			980		K350SG











Cast Aluminum

Size	Mark 9 Cat. #	Mark 9 w/Integral Gasket Cat. #	Form 7 Cat. #	Form 7 w/Integral Gasket Cat. #	Series 5 w/Integral Gasket** Cat. #	Form 7 Wedgenut Cat. #	Form 7 Wedgenut w/Integral Gasket Cat. #	Form 8§ Cat. #	Form 5‡ Cat. #	Form 7 Wedgenut Cat. #
1/2	190	190G	170 SA	170G SA	150 G	170F	170FG	180F	K50CM	170F SA
3/4	290	290G	270 SA	270G SA	250 G	270F	270FG	280F	K75CM	270F SA
1	390	390G	370 SA	370G SA	350 G	370F	370FG	380F	K100CM	370F SA
11/4	490	490G	470 SA	470G SA	450 G	470F	470FG	480F	K125CM	470F SA
11/2	590	590G	570 SA	570G SA	450 G	570F	570FG	580F	K125CM	570F SA
2	690	690G	670 SA	670G SA	650 G	670F	670FG	680F	K200CM	670F SA
21/2	889		870 SA		850 G	870F		880F	K250CM	870F SA
3	889		870 SA		850 G	870F		880F	K250CM	870F SA
31/2	989		970 SA		950 G	970F		980F	K350CM	970F SA
4	989		970 SA		950 G	970F		980F	K350CM	970F SA

[±]Malleable iron covers.

Solid Gaskets - Neoprene







	Form 7	Form 8*	Mark 9†	Form 5	Series 5
Size	Cat. #	Cat. #	Cat. #	Cat. #	Cat. #
1/2	GASK571	GASK851N	GASK1941	GK50N	GASK015N
3/4	GASK572	GASK852N	GASK1942	GK75N	GASK025N
1	GASK573	GASK853N	GASK1943	GK100N	GASK035N
11/4	GASK574	GASK854N	GASK1944	GK125N	GASK045N
11/2	GASK575	GASK805N	GASK1945	GK125N	GASK045N
2	GASK576	GASK806N	GASK1946	GK200N	GASK065N
21/2	GASK578	GASK808N	GASK808N	GK250N	GASK085N
3	GASK578	GASK808N	GASK808N	GK250N	GASK085N
31/2	GASK579	GASK809N	GASK809N	GK350N	GASK095N
4	GASK579	GASK809N	GASK809N	GK350N	GASK095N

 $^{^*1/}_2 - 1^1/_4$ are solid gaskets; $1^1/_2 - 4$ are open gaskets. $^11/_2 - 2$ are solid gaskets; $2^1/_2 - 4$ are open gaskets.

[‡]Form 7 Snaptight covers with integral sealing gasket are installed without the use of screws. §Two cover screws on ½" to 2" Form 8 covers and four cover screws on 2½" and larger Form 8 covers. **For cover without integral gasket, remove G from catalog number.

[§]Two cover screws on ½" to 2" Form 8 covers and four cover screws on 2½" and larger Form 8 covers. **For cover without integral gasket, remove G from catalog number.

Form 7 SnapPack™ Pre-Assembled Body, Gasket and Cover

Applications:

Form 7 Condulets are installed in conduit systems to:

- Act as pull outlets for conductors being installed
- Provide an opening for making splices and taps in conductors
- · Connect conduit sections
- Provide taps for branch conduit runs
- Make 90-degree bends in conduit runs
- Provide access to conductors in a conduit system for maintenance and future system changes

Features:

- All SnapPack product is individually bar coded to facilitate more efficient inventory control
- Distributors and end-users need to stock a single SKU instead of three separate component numbers – order the body, cover and gasket with one catalog number – saving transaction costs, and making product selection and merchandising fast and easy
- Form 7 conduit bodies are compact with a round back design for neat, efficient installations
- Conduit hubs have tapered threads and integral bushings for protection of wire insulation
- Many shapes and trade sizes available
- Sheet-steel wedge nut cover is provided with integral gasket. The wedge nut design facilitates installation and removal. Nuts and screws are held captive in cover
- Cover screws are stainless steel with a combination slotted and Phillips head, for easy installation and superior corrosion protection

Certifications and Compliances:

- UL Standard: 514B
- CSA Standard: C22.2 No. 18

Standard Materials:

- Body Feraloy® iron alloy
- Gasket urethane
- Cover sheet steel
- Cover screws stainless steel

Standard Finishes:

- Feraloy electrogalvanized with aluminum acrylic paint
- Sheet steel electrogalvanized

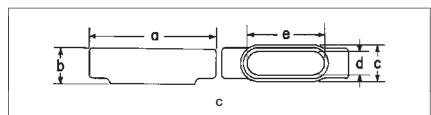
Ordering Information

Trade			
Size	Shape	Cat. #	
1/2"	С	C17 CG	
3/4"	C	C27 CG	COURSE OF THE PERSON NAMED IN COLUMN
1"	C	C37 CG	TOTAL CONTRACT OF THE PARTY OF
11/4"	С	C47 CG	A CHEST PERSON
11/2"	C C	C57 CG	
2"		C67 CG	
1/2"	LB	LB17 CG	
3/4"	LB	LB27 CG	
1"	LB	LB37 CG	STREET, STREET
11/4"	LB	LB47 CG	TO STATE OF THE PARTY OF THE PA
11/2"	LB LB	LB57 CG LB67 CG	
2"			
1/2"	LL	LL17 CG	
3/4"	LL	LL27 CG	
1"	LL	LL37 CG	
11/4"	LL LL	LL47 CG LL57 CG	
1½" 2"	LL	LL67 CG	
1/2"	LR	LR17 CG	-
3/ ₄ " 1 "	LR LR	LR27 CG LR37 CG	
11/4"	LR LR	LR37 CG LR47 CG	
1 74 1 1/2"	LR	LR57 CG	
2"	LR	LR67 CG	
1/2"	T	T17 CG	187
3/4"	†	T27 CG	A STATE OF THE PARTY OF THE PAR
1"	T	T37 CG	ASSESSMENT OF THE PERSON NAMED IN
11/4"	Ť	T47 CG	
11/2"	Ť	T57 CG	
2"	Т	T67 CG	
1/2 "	TB	TB17 CG	100
3/4"	TB	TB27 CG	_
1"	TB	TB37 CG	Action to the second
11/4"	TB	TB47 CG	100000000000000000000000000000000000000
11/2"	TB	TB57 CG	The state of the s
2"	TB	TB67 CG	
1/2"	X	X17 CG	200000000000000000000000000000000000000
3/4"	X	X27 CG	
1"	X	X37 CG	
11/4"	X	X47 CG	THE WHILE
1½" 2"	X X	X57 CG X67 CG	
2	^	ABT CG	
			The same of the sa

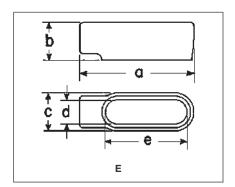
Form 7 Condulets and covers are available in additional configurations, sizes and materials. For a complete listing of Form 7, Form 8 and Mark 9 conduit bodies and covers see pages 6–12.

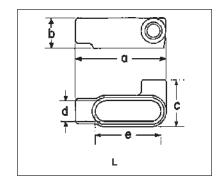
1F Condulet® Conduit Bodies - Cast Iron or Aluminum

Dimensions (In Inches)



Form 7 Size	C		3/4	1	1 ¹/₄	1	1/2	2	2 ¹/ ₂	3
a	53/8		6	7	77/16	8	3/16	93/16	12	113/4
b	13/8		1 5/8	1 ⁷ / ₈	25/16		9/16	31/8	35/8	43/8
С	13/8		1 9/ ₁₆	13/4	23/16		⁷ / ₁₆	3	41/4	41/4
d	15/16		1 1/8	1³/ ₈	13/4		¹⁵ / ₁₆	27/16	39/16	39/16
е	33/16		313/16	41/2	5	5	7/ ₁₆	63/8	83/8	83/8
Form 8	С									
Size	1/2		3/4	1	11/4	1	1/2	2	21/2	3
а	511/16		69/32	75/16	81/2	1	O³/8	121/4	15⅓	15⅓
b	1 7/ ₁₆		1 11/ ₁₆	1 15/16	23/8	2	25/32	39/16	47/16	413/16
С	13/8		1 3/ ₁₆	13/4	23/16	2	3/4	33/4	5	5
d	1		1 3/ ₁₆	1³/ ₈	13/4	2	1/8	3	41/4	41/4
е	35/16		315/16	49/16	55/16	6	1/2	89/16	10 ⁷ / ₈	107//8
Mark 9	С									
Size	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4
a	5	511/16	619/32	71/2	81/4	101/2	15⁵/₃	155/8	18³/₄	18³/ ₄
b	1³/ ₈	1 5/8	1 ⁷ / ₈	21/2	23/4	37/16	47/16	413/16	511/16	5 ¹⁵ / ₁₆
С	1 3/8	19/16	13/4	23/16	21/2	33/16	5	5	61/4	61/4
d	1 3/ ₁₆	1³/ ₈	11/2	1 15/16	21/4	27/8	41/4	41/4	57/16	57/16
е	35/16	315/16	49/16	55/16	6	81/16	10 ⁷ / ₈	10 ⁷ / ₈	137/16	137/16



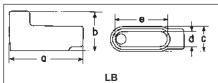


Form 7 E			
Size	1/2	3/4	1
а	49/16	53/16	6
b	1 3/8	1 5/8	1 7/8
С	1 3/8	19/16	13/4
d	15/16	1 1/8	13/8
е	33/16	313/16	41/2

Form	Form 7 L							
Size	1/2	3/4	1	11/4	11/2	2		
a	49/16	5 ³ / ₁₆	6	61/2	71/8	31/8		
b	1 ³ / ₈	1 ⁵ / ₈	17/8	25/16	2 ⁹ / ₁₆	31/8		
С	21/4	27/16	23/4	33/16	39/16	41/8		
d	15/16	1 ½	1 ³ / ₈	1 ³ / ₄	1 15/16	27/16		
е	33/16	313/16	41/2	5	57/16	6³/ ₈		

Cast Iron or Aluminum Dimensions (In Inches)

Condulet® Conduit Bodies -



				- a -	b	5	d ¢
					LB		
Form	7 LB						
Size	1/2	3/4	1	11/4	11/2	2	21/2

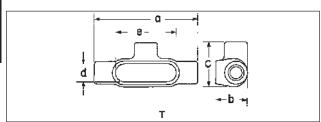
Form I										
Size	1/2	3/4	1	11/4	11/2	2	2 ¹ / ₂	3	31/2	4
а	49/16	53/16	6	61/2	71/8	81/8	101/2	101/2	1211/16	1211/16
b	21/4	21/2	27/8	35/16	311/16	41/4	51/8	57/8	69/16	71/16
С	13/8	19/16	13/4	23/16	27/16	3	41/4	41/4	51/4	51/4
d	15/16	1 1/8	13/8	13/4	1 15/16	27/16	39/16	39/16	41/2	41/2
е	33/16	313/16	41/2	5	57/16	63/8	83/8	83/8	101/4	101/4
Form 8	B LB									
Size	1/2	3/4	1	11/4	11/2	2	2 ¹ / ₂	3	31/2	4
a	415/16	59/16	615/32	717/32	91/8	11	1315/16	1315/16	16 ⁷ / ₈	167/8
b	27/32	27/16	213/16	311/32	41/32	413/16	61/8	61/2	79/16	713/16
С	13/8	19/16	13/4	23/16	23/4	33/4	5	5	61/4	61/4
d	1	13/16	13/8	13/4	21/8	3	41/4	41/4	57/16	57/16
е	35/16	315/16	49/16	55/16	61/2	89/16	107//8	107/8	137/16	137/16
Mark 9	LB									
Size	1/2	3/4	1	11/4	11/2	2	2 ¹ / ₂	3	31/2	4
a	419/32	51/4	63/32	71/32	73/4	101/32	1315/16	1315/16	16 ⁷ / ₈	167/8
b	21/8	213/32	227/32	315/32	33/4	415/32	6¹/ ₈	61/2	79/16	713/16
С	13/8	19/16	13/4	23/16	21/2	33/16	5	5	61/4	61/4
d	1 3/ ₁₆	13/8	11/2	1 15/16	21/4	27/8	41/4	41/4	57/16	57/16
е	35/16	315/16	49/16	55/16	6	81/16	107/8	10 ⁷ / ₈	137/16	137/16



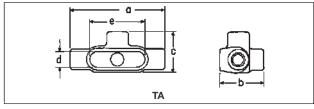
Form 7	LL & LR									
Size	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4
a	49/16	53/16	6	61/2	71/8	81/8	101/2	101/2	1211/16	1211/16
b	13/8	15/8	17/8	25/16	29/16	31/8	35/8	43/8	47/8	53/8
С	21/4	27/16	23/4	33/16	39/16	41/8	53/4	53/4	615/16	615/16
d	15/16	1 1/8	1³/ ₈	13/4	1 15/16	27/16	39/16	39/16	41/2	41/2
е	33/16	313/16	41/2	5	57/16	6³/ ₈	83/8	83/8	101/4	101/4
Form 8	LL & LR									
Size	1/2	3/4		1	11/4	11/2	2	2	21/2	3
a	415/16	5%	6	615/32	717/32	9¹/ ₈	11	1	315/16	1315/16
b	1 7/ ₁₆	111/	/ ₁₆	1 15/16	23/8	225/32	39/16	4	¹⁷ / ₁₆	413/16
С	25/32	25/1	6	25/8	35/32	4	5	6	S ¹¹ / ₁₆	611/16
d	1	1 ³ / ₁	6	1³/s	13/4	21/8	3	4	11/4	41/4
е	35/16	315/	/ ₁₆	49/16	55/16	61/2	89/16	1	07/8	107/8
Mark 9	LL & LR									
Size	1/2	3/4	1	11/4	11/2	2	2 ¹ / ₂	3	31/2	4
a	419/32	51/4	63/32	71/32	73/4	101/32	1315/16	1315/16	16 ⁷ / ₈	16 ⁷ / ₈
b	1³/ ₈	1 5/8	1 ⁷ / ₈	21/2	23/4	37/16	47/16	413/16	511/16	5 ¹⁵ / ₁₆
С	21/8	23/8	25/8	33/32	37/16	41/8	611/16	611/16	81/8	8 ¹ / ₈
d	1 3/16	1³/ ₈	11/2	1 15/16	21/4	27/8	41/4	41/4	57/16	57/16
е	35/16	315/16	49/16	55/16	6	81/16	107/8	10 ⁷ / ₈	137/16	137/16

1F Condulet® Conduit Bodies - Cast Iron or Aluminum

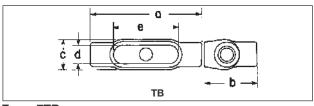
Dimensions (In Inches)



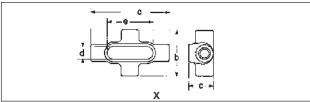
Form	7T				
Size	а	b	С	d	е
1/2	5 ⁵ / ₈	13/4	27/16	15/16	33/16
3/4	61/4	2	25/8	11/8	313/16
1	71/4	21/4	3	13/8	41/2
11/4	77/16	25/16	33/16	13/4	5
11/2	83/16	29/16	39/16	1 15/16	57/16
2	93/16	31/8	41/8	27/16	63/8
21/2	12	35/8	53/4	39/16	83/8
3	121/16	43/8	53/4	39/16	83/8
31/2	145/16	47/8	615/16	41/2	101/4
4	145/16	53/8	615/16	41/2	101/4
Form	8T				
1/2	511/16	13/4	25/32	1	35/16
3/4	69/32	2	25/16	13/16	315/16
1	75/16	21/4	25/8	1³/ ₈	49/16
11/4	81/2	25/8	35/32	13/4	55/16
1 1/2	10³/ ₈	225/32	4	21/8	61/2
2	121/4	39/16	5	3	89/16
21/2	155/8	47/16	611/16	41/4	107/8
3	151/8	413/16	611/16	41/4	107/8
Mark	9T				
1/2	5	13/8	21/8	1 3/ ₁₆	35/16
3/4	511/16	15/8	23/8	13/8	315/16
1	619/32	17/8	25/8	11/2	49/16
11/4	71/2	21/2	33/32	1 15/16	55/16
11/2	81/4	23/4	37/16	21/4	6
2	101/2	37/16	41/8	27/8	81/16
21/2	15 ⁵ / ₈	47/16	611/16	41/4	107/8
3	15 ⁵ / ₈	413/16	611/16	41/4	107/8
31/2	183/4	511/16	81/8	57/16	137/16
4	183/4	515/16	81/8	57/16	137/16



Form	7TA								
Size	а	b	С	d	е				
1/2	5 ⁵ / ₈	25/8	27/16	15/16	33/16	_			
3/4	61/4	27/8	25/8	1 1/8	313/16				
1	71/4	31/4	3	1³/ ₈	41/2				
1 1/4	77/16	35/16	33/16	13/4	5				
11/2	83/16	311/16	39/16	1 15/16	57/16				
2	93/16	41/4	41/8	27/16	6³/ ₈				



Form	7TB				
Size	а	b	С	d	е
1/2	5 ⁵ / ₈	25/8	19/16	15/16	33/16
3/4	61/4	27/8	13/4	11/8	313/16
1	71/4	31/4	2	1 3/8	41/2
11/4	77/16	35/16	23/16	13/4	5
11/2	83/16	5	27/16	1 15/ ₁₆	57/16
2	93/16	61/8	3	27/16	63/8
Form	8TB				
1/2	511/16	217/32	13/8	1	35/16
3/4	69/32	23/4	19/16	1 3/ ₁₆	315/16
1	75/16	31/8	13/4	1³/ ₈	49/16
11/4	81/2	311/32	23/16	13/4	55/16
11/2	10³/ ₈	41/32	23/4	21/8	61/2
2	121/4	413/16	33/4	3	89/16
Mark	9TB				
1/2	5	21/8	13/8	1 3/ ₁₆	35/16
3/4	511/16	213/32	19/16	13/8	315/16
1	619/32	227/32	13/4	11/2	49/16
11/4	71/2	315/32	23/16	1 15/16	55/16
11/2	811/32	37/8	21/2	25/32	5 ⁷ /8
2	105/8	419/32	37/32	213/16	83/32



			Х		
Form	7X				
Size	а	b	С	d	е
1/2	5 ⁵ / ₈	35/16	13/4	15/16	33/16
3/4	61/4	31/2	2	11/8	313/16
1	71/4	4	21/4	13/8	41/2
1 1/4	77/16	41/8	25/16	13/4	5
1 1/2	83/16	45/8	29/16	1 15/16	57/16
2	93/16	53/16	31/8	27/16	6³/ ₈
Form	8X				
1/2	511/16	229/32	13/4	1	35/16
3/4	69/32	31/16	2	13/16	315/16
1	75/16	31/2	21/4	1³/s	49/16
11/4	81/2	41/8	25/8	13/4	55/16
1 1/2	103/8	51/4	215/32	21/8	61/2
2	121/4	61/4	39/16	3	89/16
Mark	9X				
1/2	511/16	229/32	13/4	1	35/16
3/4	69/32	31/16	2	13/16	315/16
1	75/16	31/2	21/4	13/8	49/16

Condulet® Conduit Bodies -Cast Iron or Aluminum

Mogul Bodies, Covers and Gaskets

Applications:

Mogul bodies are installed in conduit systems to:

- Act as pull outlets for conductors that are stiff, due to large size or type of insulation
- Provide the longer openings needed when pulling large conductors
- Prevent sharp bends and kinks in large conductors (protects insulation during installation)
- Provide ample openings for splices and taps
- Provide access to wiring for maintenance and future system changes

Features:

Mogul bodies have:

- Long openings
- Provision for easy bends
- Taper tapped hubs with integral bushings
- Stainless steel cover screws
- · Covers are designed with integral gasket

Certifications and Compliances:

UL Standard: 514BFed. Spec.: W-C-586dCSA Standard: C22.2 No. 18

Standard Materials:

• Feraloy® iron alloy

Standard Finishes:

• Feraloy – electrogalvanized and aluminum acrylic paint

Options:

Description	Suffix
Material – copper-free aluminum	SA
Hot dipped galvanized	HDG

BC



Mogul Series	
Size	Cat. #
1	BC3
11/4	BC4
11/2	BC5
2	BC6
21/2	BC7
3	BC8
31/2	BC9
4	BC10

BLB†



Mogul Series	
Size	Cat. #
1	BLB3
11/4	BLB4
11/2	BLB5
2	BLB6
21/2	BLB7
3	BLB8
31/2	BLB9
4	BLB10

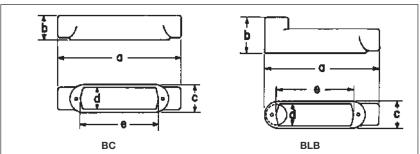
† For 5" size use LBD012. For 6" size use LBD014.

Dimensions

6

6

In Inches:



Mogul Series BC 21/2 Size 11/4 11/2 2 3 31/2 4 99/16 99/16 13³/₄ 13³/₄ 183/8 183/8 233/4 233/4 29/16 35/8 b 17/8 25/16 31/8 43/8 5³/8 $4^{7}/_{8}$ 23/16 23/16 41/4 41/4 51/4 51/4 C 3 3 25/8 25/8 313/16 313/16 43/4 d 17/8 17/8 43/4 6 10 10 15 15 20 20 **Mogul Series BLB** Size 11/4 11/2 2 21/2 3 31/2 4 а 819/32 819/32 1211/16 1211/16 1629/32 1629/32 221/8 221/8 b 227/32 39/32 35/8 43/16 53/32 $5^{27}/_{32}$ 61/2 51/4 С 23/16 23/16 41/4 41/4 51/4 3 3 d 17/8 313/16 313/16 25/g 25/g 43/4 43/4 17/8

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1F Condulet® Conduit Bodies - Cast Iron or Aluminum

Mogul Bodies, Covers and Gaskets

BUB



Mogul Series	
Size	Cat. #
1	BUB3
11/4	BUB4
11/2	BUB5
2	BUB6
21/2	BUB7
3	BUB8
31/2	BUB9
4	BUB10

BT



Mogul Series	
Size	Cat. #
1	BT3
11/4	BT4
11/2	BT5
2	BT6
21/2	BT7
3	BT8
31/2	ВТ9
4	BT10

Blank Covers



Feraloy® iron alloy (for all Mogul Series except BUBXL)

Size	With Round Neoprene Gasket Cat. #
1 or 11/4	BG48
1½ or 2	BG68
21/2 or 3	BG88
31/2 or 4	BG98

BUBXL with Cover & Gasket



BUBXL8

11/0

10

Extra Large Mogul Series Size Cat. #

BUBXL Moguls

XL Mogul Conduit Bodies and Covers are designed to ease installation, saving time and money while maintaining the quality you have come to expect from Eaton's Crouse-Hinds.

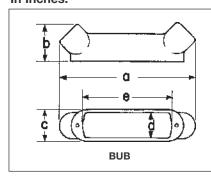
- Larger internal volume provides additional space for bending and pulling large conductors (complies with the 6x wire bending rule)
- Rollers improve the ability to pull larger conductors and protect the insulation when the wire is being pulled, greatly reducing cut cable incidents
- Cover design takes less time to install and can be used as a solid or with the center removed for more internal volume

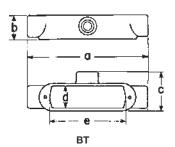
Dimensions In Inches:

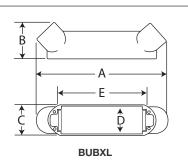
Mogul Series BUB

Siza

3







Size		1 74	1 72	_	∠ 72	3	372	4	
a	93/16	95/16	131/2	131/2	173/4	17 ⁷ /s	233/8	231/4	
b	211/16	33/16	31/2	41/8	413/16	55/8	6³/ ₈	613/16	
С	23/16	23/16	3	3	41/4	41/4	51/4	51/4	
d	1 ⁷ / ₈	17/8	25/8	25/8	313/16	313/16	43/4	43/4	
е	6	6	10	10	15	15	20	20	
_	ıl Series								
Size	1	11/4	11/2	2	2 ¹ / ₂	3	31/2	4	
a	99/16	99/16	133/4	133/4	183/8	183/8	233/4	233/4	
b	1 7/8	25/16	29/16	31/8	35/8	43/8	47/8	5³/ ₈	
С	35/32	35/32	41/16	41/16	5 ¹⁹ / ₃₂	$5^{23}/_{32}$	67/8	6 ⁷ / ₈	
d	1 ⁷ /8	1 ⁷ / ₈	25/8	25/8	313/16	313/16	43/4	43/4	

10

Mogul Series BUBXL					
Size	2	3			
а	15.28	22.85			
b	4.07	5.58			
С	3.00	4.25			
d	2.25	3.38			
е	12.25	15.25			

15

15

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Condulet® Conduit Bodies -Cast Iron or Aluminum

LBD Mogul

Applications:

LBD bodies are installed at 90° bends in rigid conduit to:

- Act as pull outlets for conductors that are stiff due to large size or type of insulation
- Make 90° bends in conduit system, allowing straight pull in either direction
- Provide for conduit service entrance to buildings
- Provide for conductor entrance to motors
- Provide access to wiring for maintenance and future expansion

Features:

LBD bodies have:

- Cover openings on an angle permitting conductors to be pulled straight through hubs from either direction
- Domed covers to permit easy conductor bends (relieves strain on insulation)
- · Cover and gasket furnished
- Taper tapped hubs with integral bushings

Certifications and Compliances:

• UL Standard: 514B

• Fed. Spec.: W-C-586d

• CSA 22.2 No. 18

Standard Materials:

- Body and cover Feraloy® iron alloy
- Gasket Neoprene

Standard Finishes:

 Feraloy iron alloy: ½" to 4" sizes, electrogalvanized and aluminum acrylic paint; 5" and 6" sizes, zinc chromate primer and aluminum lacquer

• Neoprene - natural

Options:

Description	Suffix
Material – All sizes, copper-free aluminum	SA

Ordering Information







1/2 - 1"

11/4 - 2", 5" - 6"

Size	Cat. #	Size	Cat. #	Size	Cat. #
1/2	LBD1100	11/4	LBD4400	31/2	LBD9900
3/4	LBD2200	11/2	LBD5500	4	LBD10900
1	LBD3300	2	LBD6600	5	LBD012
		21/2	LBD7700	6	LBD014
		3	LBD8800		

Replacement Gaskets for Above Sizes Rubber

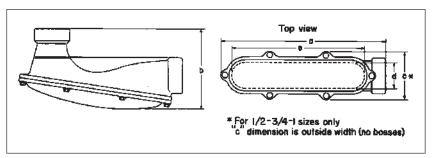
Size	Cat. #	Size	Cat. #	Size	Cat. #
1/2	GASK680R	11/4	GASK683R	31/2	GASK989R
3/4	GASK681R	11/2	GASK684R	4	GASK989R
1	GASK682R	2	GASK684R	5	GASK687R
		21/2	GASK990R	6	GASK688R
		3	GASK990R		

Replacement Cover Assembly with Hardware

Size	Cat. #	Size	Cat. #	Size	Cat. #
1/2	LBD100	11/4	LBD400	3	LBD800
3/4	LBD200	11/2	LBD600	31/2	LBD900
1	LBD300	2	LBD600	4	LBD900
		21/2	LBD800	5	LBD120
				6	LBD140

Dimensions

In Inches:



Cat. #	Size	а	b	С	d	е
LBD1100	1/2	5	25/16	1 5/ ₁₆	1	311/32
LBD2200	3/4	61/4	25/8	19/16	1 1/4	$4^{17}/_{32}$
LBD3300	1	61/4	215/16	1 13/16	11/2	411/32
LBD4400	11/4	85/8	41/4	31/2	1 13/16	73/16
LBD5500	11/2	127/16	5 ⁷ / ₁₆	45/8	25/8	107/8
LBD6600	2	127/16	57/16	45/8	25/8	107/8
LBD7700	21/2	1911/16	99/16	5⁵/ ₈	3	15 ³ / ₄
LBD8800	3	1911/16	99/16	5⁵/ ₈	3	15 ³ / ₄
LBD9900 (iron)	31/2	207/8	10 ⁷ / ₈	73/4	43/4	19 ⁷ / ₈
LBD10900 (iron)	4	207/8	10 ⁷ / ₈	73/4	43/4	19 ⁷ / ₈
LBD9900 (-SA)	31/2	2713/16	11 ⁷ /8	71/8	4	24
LBD10900 (-SA)	4	2713/16	11 ⁷ / ₈	71/8	4	24
LBD012	5	327/16	121/2	85/8	57/8	30
LBD014	6	411/2	15	93/4	7	39

1F

Condulet® Conduit Bodies -Cast Iron or Aluminum

Mogul Pulling Elbows

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Applications:

Die cast mogul pulling elbows are installed in conduit systems to provide:

- An accessible weather resistant chamber for containing heavy duty conductors
- A chamber for containing 90° turn in large stiff conductors. Used either to change conductor direction or to enter buildings
- · A pull box for pulling large conductors
- A chamber for making splices and taps
- An accessible opening to accommodate future changes of the system

Features:

- Large dome cover permits easy, straight through pull
- Dimension from centerline of back hub to bushing of end hub exceeds six times the trade diameter of the conduit
- Tapered threads provide easy assembly, tight construction
- Heavy duty machine screws for cover
- · Cover is gasketed
- Smooth design and finish make handling easy and complement any construction ioh

Certifications and Compliances:

• UL Standard: 514A

• NEC: Article 314

• CSA C22.2 No. 18

• CEC: 22.1

Standard Materials:

• Die cast copper-free aluminum

Standard Finishes:

• Aluminum lacquer

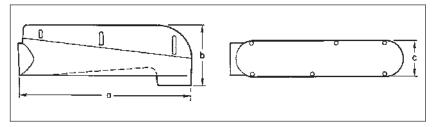
LBNEC Furnished With Cover, Gasket and Screws



Size	Cat. #	Bending Radius
21/2	LBNEC7	51/4
3	LBNEC8	53/4
31/2	LBNEC9	7
4	LBNEC10	73/8

Dimensions

In Inches:



Cat. #	Size	а	b	С
LBNEC7	21/2	2111/16	89/32	41/2
LBNEC8	3	2111/16	89/32	41/2
LBNEC9	31/2	2811/16	97/32	51/2
LBNEC10	4	2811/16	97/32	51/2

Condulet® Conduit Outlet Bodies, Covers and Gaskets - Stainless Steel

Eaton's Crouse-Hinds Condulet[®] Stainless Steel Fittings deliver power where you need it, saving you time and money throughout the life of your facility.

Superior resistance to corrosion and heat, combined with unmatched strength, make stainless steel Condulet bodies and boxes a long-term solution for even the most extreme environments.

Applications:

Conduit outlet bodies are installed in conduit systems to:

- · Act as pull outlets for conductors being installed
- Provide openings for making splices and taps in conductors
- · Act as mounting outlets for lighting fixtures and wiring devices
- · Connect conduit sections
- Provide taps for branch conduit runs
- Make 90° bends in conduit runs
- Provide for access to conductors for maintenance and future system changes

Features:

- Self-healing properties of stainless steel fittings help reduce the penetration of rust/corrosion and eliminate damage to the fitting
- Stainless steel fittings retain their strength in extreme heat and extreme cold conditions
- Fitting surface is easy to maintain and keep clean
- Easy cleaning capabilities make these fittings perfect for food processing and other hygienic areas where wash downs are common
- Superior strength and durability greatly reduce replacement of fittings - this will lower your total cost of ownership and increase your return on investment
- Stainless steel fittings do not require harsh environment-damaging cleaners to keep them looking like new
- Conduit hubs have tapered threads and feature integral bushing for protection of wire insulation
- Outlet bodies designed to match conduit size for neat, compact installations

Certifications and Compliances:

- UL Standard 514A
- CSA Standard C22.2 No. 18.1-04
- Raintight when installed with cover and gasket

Standard Materials:

- Bodies 316 stainless steel
- Covers 316 stainless steel
- Cover Screws 316 stainless steel
- Gasket neoprene





Dimension						
4	Overall length					
3	Overall height					
2	Overall width					
)	Width of opening					
=	Length of opening					

Ordering Information - conduit body supplied with cover and gasket

T Conduit Body, Cover and Gasket



Catalog	Trade								
Number	Size	Α	В	С	D	E			
T18SS	1/2"	5.56	1.75	1.31	1.02	3.15			
T28SS	3/4"	6.61	2.00	1.63	1.27	3.92			
T38SS	1"	7.53	2.31	1.78	1.42	4.61			
T48SS	11/4"	8.75	2.50	2.25	1.83	5.50			
T58SS	11/2"	9.37	2.75	2.47	2.03	6.12			
T68SS	2"	11.50	3.38	3.13	2.50	8.00			
T88SS	3"	15.00	4.63	4.34	3.71	10.25			
T108SS	4"	18 25	5 44	5.50	4 87	13.00			

LB Conduit Body, Cover and Gasket



Catalog	Trade							
Number	Size	Α	В	С	D	E		
LB18SS	1/2"	4.86	1.35	1.31	1.02	3.15		
LB28SS	3/4"	5.75	1.63	1.63	1.27	3.94		
LB38SS	1"	6.48	2.00	1.78	1.42	4.55		
LB48SS	11/4"	7.75	3.50	2.25	1.83	5.50		
LB58SS	11/2"	8.38	2.75	2.47	2.03	6.13		
LB68SS	2"	10.50	3.38	3.13	2.50	8.00		
LB88SS	3"	13.50	6.13	4.34	3.71	10.25		
LB108SS	4"	16.63	7.25	5.50	4.87	13.00		

TB Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	E	
TB28SS	3/4"	6.61	2.88	1.63	1.27	3.95	
TB38SS	1"	7.53	3.23	1.78	1.42	4.61	
TB48SS	11/4"	8.75	3.50	2.25	1.83	5.50	
TB58SS	11/2"	9.37	3.75	2.47	2.03	6.12	
TB68SS	2"	11.50	4.38	3.13	2.50	8.00	

C Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	E	
C18SS	1/2"	5.56	1.38	1.31	1.02	3.15	
C28SS	3/4"	6.56	1.63	1.63	1.27	3.94	
C38SS	1"	7.50	2.00	1.78	1.42	4.61	

LL Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	E
LL28SS	3/ ₄ "	5.72	1.63	1.63	1.27	3.95
LL38SS	1"	6.59	2.00	1.78	1.42	4.61

LR Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	Е	
LR28SS LR38SS	3/ ₄ "	5.72 6.59	1.63 2.00	1.63 1.78	1.27 1.42	3.95 4.61	

Condulet® Outlet Boxes -Cast Iron or Aluminum

Covers and Gaskets

Applications:

VXF and GRF cast outlet boxes are installed in threaded rigid conduit systems to:

- · Act as junction boxes
- · Act as pull outlets
- Accept round base wiring devices and covers intended for use on 4" outlet boxes (GRF boxes only)
- Act as ceiling or wall mounting for Vaporgard™ lighting fixtures (VXF boxes)
- Mount enclosed and gasketed lighting fixtures: Series ARB and VGR; Series ARB fixture hangers (GRF boxes)

Features VXF:

- · Compact, shallow design
- · Takes GRF covers
- Multiple tapped conduit openings and pipe plugs for versatility
- 4 hubs and 3 plugs on VXF10 and VXF20
- 5 hubs and 4 plugs on VXFT10 and VXFT20

Features GRF:

- Surface mounting. Flush mounting can be obtained by nailing box to concrete form through mounting lug
- Drilled mounting lugs
- Four conduit bosses spaced 90° apart on sides and one boss on back
- Blank or drilled and tapped bodies (with 4 side bosses tapped and plugged, plus blank back boss)

Certifications and Compliances:

- UL Standard: boxes and covers 514A
- CSA Standard: C22.2

Standard Materials:

- VXF copper-free aluminum
- GRF Feraloy® iron alloy or copper-free aluminum

Standard Finishes:

- VXF epoxy enamel
- GRF electrogalvanized and aluminum acrylic paint

Options:

Description	Suffix
GRF bodies and covers - hot	
dipped galvanized	HDG

VXF Tapped Surface With Lugs



4 Hubs, 3 Plugs	
Hub Size	Cat. #
1/2	VXF10
3/4	VXF20

Surface With Lugs 5 Hubs, 4 Plugs Hub Size Cat.

nub Size	Cat. #
1/2	VXFT10
3/4	VXFT20

GRF Blank Surface With Lugs



Inside Depth	Cat. #
13/8	GRF19
1 15/ ₁₆	GRF29
31/8	GRF39

GRFX Tapped SurfaceWith Lugs



4 Hubs, 3 Plugs Blank Back Boss

Inside	Size	Iron	Aluminum
Depth	Tap	Cat. #	Cat. #
13/8	1/2	GRFX119	GRF119
1³/ ₈	3/4	GRFX219	GRF219
21/16	1/2	GRFX129	GRF129
21/16	3/4	GRFX229	GRF229
21/16	1	GRFX329	GRF329
31/8	1/2	GRFX139	GRF139
31/8	3/4	GRFX239	GRF239
31/8	1	GRFX339	GRF339

GRF Blank Cover



	Iron	Aluminum	
Description	Cat. #	Cat. #	
Surface	GRF10	GRF110	

GRF Hub Covers



Fixture weight to 125 lbs.

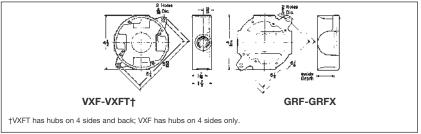
Description	Size	Iron Cat. #	Aluminum Cat. #
Surface	1/2	GRF11	GRF11 SA
Surface	3/4	GRF12	GRF12 SA

GRF Gasket



Description	Cat. #
Neoprene	GASK643

Dimensions In Inches:



See lighting section 7L for complete listing of lighting fixtures and hangers.

Applications:

SLB and LBY elbows are installed in conduit systems to:

- Act as service entrance elbows between service entrance and vertical weatherhead conduit runs
- Make 90° bends in conduit systems where space is limited
- Act as pull outlets
- Provide access to conductors for maintenance and future system changes

ET short radius tees are installed in conduit systems:

 In concealed conduit runs allowing single conduit stub up to outlet boxes located above or below main conduit run.
 Eliminates separate feed and return conduits to flush floor box or junction box

Features:

SLB elbows have:

- · Compact overall size and short hubs
- Taper tapped hubs and integral bushing for standard threaded conduit
- · Covers and gaskets furnished

LBY elbows have:

- Maximum volume for bends within a compact overall size
- Screw-on cover for ease of installation and removal
- Cover openings on an angle, permitting conductors to be pulled straight through either hub
- Taper tapped hubs and integral bushing for standard threaded conduit

ET short radius tees have:

- Compact size, small radius of bend for use in concealed or open conduit systems. Particularly suited for use in shallow floors or partitions
- Taper tapped hubs and integral bushing for standard threaded conduit

Certifications and Compliances:

UL Standard: 514BFed. Spec.: W-C-586a

Standard Materials:

- SLB elbows copper-free aluminum
- LBY elbows Feraloy® iron alloy
- ET tees Feraloy iron alloy

Standard Finishes:

- Copper-free aluminum natural
- Feraloy iron alloy electrogalvanized and aluminum acrylic paint

Options:

 Description
 Suffix

 Finishes – LBY elbows:
 Corro-free™ epoxy power coat

 Material (LBY only) – copper-free
 \$752

SLB (includes cover)

aluminum construction



Size	Cat. #
1/2	SLB1
3/4	SLB2
1	SLB3
11/4	SLB4
11/2	SLB5
2	SLB6

LBY (includes cover)

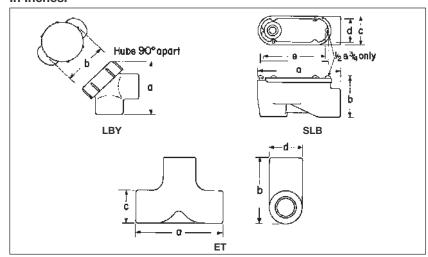


Size	Cat. #
1/2	LBY15
3/4	LBY25
1	LBY35
11/4	LBY45
11/2	LBY55



Size	Cat. #
3/4 - 1/2 - 1/2	ET218
3/4 - 3/4 - 3/4	ET228
$1 - \frac{3}{4} - \frac{3}{4}$	ET328
Largest hub shown at top	of photo

Dimensions In Inches:



SA

SLB						
Size	1/2	3/4	1	13/4	11/2	2
а	31/8	31/2	41/8	53/8	623/32	7 ³ / ₄
b	1 ²⁵ / ₃₂	2	19/32	225/32	31/32	329/32
С	13/16	13/8	1 11/16	23/32	23/8	3
d	1	1 ³ / ₁₆	1 15/32	17/8	2 ⁵ / ₃₂	25/8
е	211/16	215/16	311/32	43/4	61/32	631/32
LBY						
Size	1/2	3/4		1	13/4	11/2
a	213/16	33/16		31/4	325/32	41/2
b	2	21/4		21/2	215/16	33/8
ET						
Size	3/4 - 1/2 - 1/2		3/4	-3/4-3/4	1 -	- ³ / ₄ - ³ / ₄
а	4		4		4	
b	2	25/8	3		3	
С	1	11/4	11	1/2	11/3	2
d	1	11/2	11	/2	13/4	1

Condulet® Device Boxes Non-hazardous

Description	Page No.
Application/Selection	see page 22
Shape Selector Charts	see page 23
Device Boxes - Cast Iron or Aluminum	
FS/FD Series	
Single gang	
Blank	see pages 31-34
Cast hubs	see pages 25-28
Multi-gang	
Blank	see pages 31–34
Cast hubs	see pages 29–30
Covers for Cast Iron or Aluminum Device WLR and WLG Wet Locations Covers Configuration and GFCI Receptacles	
Blank	see page 39
Pilot light	see page 43
Push button	see page 41
Receptacle	see page 37
Switch	see page 39
Device Boxes and Covers - Stainless Ste	el
FS/FD Series	see pages 35–36
Plugs and Receptacles	
DS Series	see page 42
DS/WP Series	see page 42
FSE Series	see page 46

2F

Applications:

Cast device boxes are installed in conduit and cable systems to:

Application and Selection

- Accommodate wiring devices
- Act as pull boxes for conductors in a conduit system
- · Provide openings to make splices and taps in conductors
- Provide access to conductors for maintenance and future system changes

Considerations for Selection of Device Box

Type of conduit system:

- Should be compatible with conduit or cable system.
- Boxes are standard with mounting lugs and internal green ground screw.
- Boxes are available for rigid steel, IMC; rigid aluminum; flexible conduit and cable systems.

Number of devices to be used in the box:

• Standard flush devices require one gang each

Depth

- Two box types are available standard (FS) and deep (FD), single through five gang.
- Standard flush wiring devices will normally fit in the FS boxes.
- Some special purpose devices of higher ratings will require the deeper box (FD).
- In addition, the need for additional wiring space will require the deep box.

Hub configuration and size:

 The layout of the conduit system dictates the conduit opening locations of the box.

The table below indicates the types of conduit and the boxes available. Drilled and tapped openings can be supplied in blank boxes to meet your requirements.

 Hub size is the same as conduit size. A variety of hub sizes are available. Where the specific hub size is not available, reducing bushings can be used.

Materials and finishes:

- The environment and the use of the box will determine the material and finish needed. Areas of the country with harsh weather and corrosive environments may require different materials and finishes for added protection.
- Standard material and finish is Feraloy® iron alloy with electrogalvanized and aluminum acrylic paint. Many items are also available in copper-free aluminum.
- Optional finishes can be obtained if environment warrants. See Options listings.

Considerations for Selection of Covers, Devices, and Accessories

Both general purpose and weatherproof, waterproof devices and covers are available. Selection will depend on individual conditions. To provide for a wide variety of applications, the following covers and devices are available:

Covers Pg.

General use snap switch see pages 39–41 and 44–45 Pushbutton switch see page 41

Plug and receptacle see pages 37, 39, 42, and 44–46

Blank see pages 39 and 44–45

Pilot light see page 43

Receptacle see pages 37–39, 42, and 44–46

Devices Pg.

Receptacle see page 42
Pilot lights see page 43
Wiring device see page 42

Accessories Pg.

Gaskets see page 43
Box extensions see page 43
Flush mtg. adapter see page 43

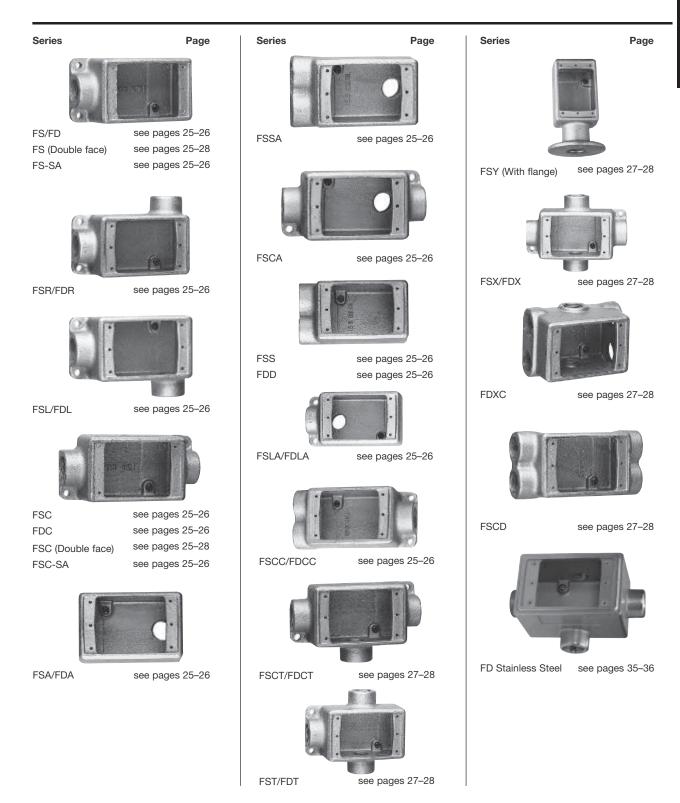
Options:

DescriptionSuffixCorro-free™ epoxy powder coat\$752

Quick Selector Chart

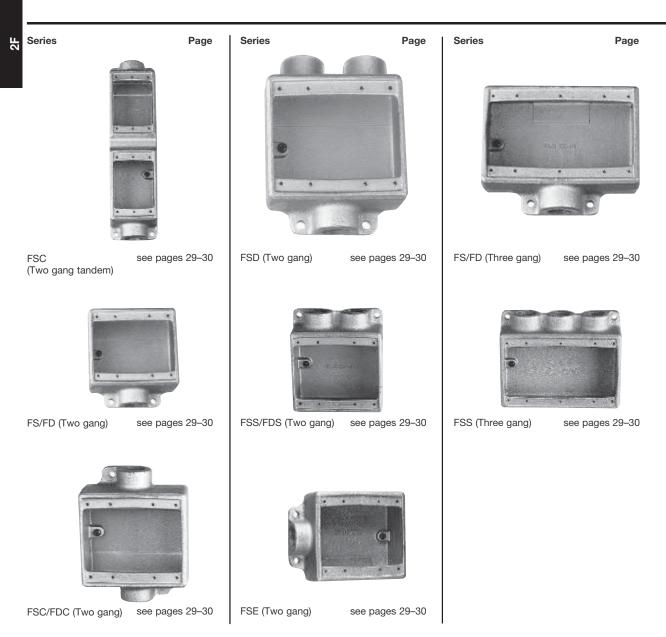
Вох	Depth	Gang	Conduit Type	Standard Material	Standard Finish
FS	1 11/ ₁₆	1-3	Threaded rigid	Feraloy iron alloy (some are copper-free aluminum)	Feraloy iron alloy – electrogalvanized and aluminum acrylic paint. Copper-free aluminum – natural
FD	21/2	1-3	Threaded rigid	Feraloy iron alloy	Feraloy iron alloy – electrogalvanized and aluminum acrylic paint
FD-SS	3.03	1	Threaded rigid	Stainless steel	Natural
FS blank bodies Drilled and tapped	1 15/ ₁₆	1-4 1-3	Threaded rigid	Feraloy iron alloy	Feraloy iron alloy – electrogalvanized and aluminum acrylic paint
FD blank bodies Drilled & tapped	21/2	1-5 1-3	Threaded rigid	Feraloy iron alloy	Feraloy iron alloy – electrogalvanized and aluminum acrylic paint

Single Gang Shape Selector Chart



If the hub configurations required are not available, drilled and tapped openings can be provided in blank boxes per your specifications. See pages 31–34 for details.

Multi-Gang Shape Selector Chart



If the hub configurations required are not available, drilled and tapped openings can be provided in blank boxes per your specifications. See pages 31-34 for details.

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Condulet® Single Gang Device Boxes - Cast Iron or Aluminum

Accessories see pages 37–45

With and Without Mounting Lugs for Threaded Rigid and IMC Conduit

Applications:

Cast device boxes are installed to:

- · Accommodate wiring devices
- Act as pull boxes for conductors in a conduit system
- Provide openings to make splices and taps in conductors
- Provide access to conductors for maintenance and future system changes
- Connect conduit sections
- FSY boxes for mounting surface devices on floor or bench (used with single gang covers)

Features:

- Internal green ground screw standard on boxes
- Suitable for use in wet locations when used with gasketed covers
- · Mounting lugs standard on most boxes
- Tapered threaded hubs (NPT) with integral bushing
- Available for surface mounting (with mounting lugs) or flush mounting (without mounting lugs) as listed
- Available as shallow (FS) or deep (FD) configuration. Use FD if device to be enclosed exceeds 15% in depth
- Ample wiring room provided in either FS or FD configuration
- Wide selection of surface or flush covers available in three materials (sheet steel, Feraloy®, aluminum)
- Covers for flush mounting extend to conceal the rough plaster line
- Available in single gang and multi-gang configurations with hubs, and as blank bodies for drilled and tapped openings

Certifications and Compliances:

UL Standard: 514ANSI Standard: C33.84Fed. Spec.: W-C-5860CSA Standard: C22.2 No. 18

Standard Materials:

• Feraloy iron alloy or copper-free aluminum.

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Aluminum natural

Options:

Description	Suffix
Finishes:	
Corro-free™ epoxy powder coat	
- external body	S752
Corro-free™ epoxy powder coat	
- internal and external	S753
Hot dipped galvanized	HDG

Size Ranges:

• Hubs - 1/2" to 1"

FS & FD



Size	Cat. #	Cat. #
1/2	FS1*	FD1†
3/4	FS2*	FD2†
1	FS3†	FD3†



Size	Cat. #	Cat. #
1/2	FSR1	FDR1
3/4	FSR2	FDR2*+



Size	Cat. #	Cat. #
1/2	FSC1*	FDC1†
3/4	FSC2*	FDC2†
1	FSC3†	FDC3†



Size	Cat. #	Cat. #	
1/2	FSL1	FDL1	_
3/4	FSL2	FDL2*†	

*Available in sand cast copper-free aluminum – add suffix SCA to Cat. No.

†Available in sand cast copper-free aluminum – add suffix SA to Cat. No.

Die Cast Aluminum±



Size	Cat. #	Cat. #
1/2	FS1 SA	FSC1 SA
3/4	FS2 SA	FSC2 SA

‡Mounting lugs and ground screw are not offered with standard die cast aluminum box. For sand cast aluminum box with mounting lugs and ground screw, change "SA" in catalog number to "SCA" (Example: FS1 SCA).

With and Without Mounting Lugs for Threaded Rigid and IMC Conduit

FS & FD



Size	Cat. #†	Cat. #†
1/2	FSA1	FDA1
3/4	FSA2	FDA2



Size	Cat. #†	Cat. #†
1/2	FSS1*	FDD1
3/4	FSS2*	FDD2*
1	FSS3	FDD3



Size	Cat. #	Cat. #	
1/2	FSCC1	FDCC1	
3/4	FSCC2	FDCC2	



Size	Cat. #	
1/2	FSCA1	
3/4	FSCA2	



Size	Cat. #†
3/4	FSSA2

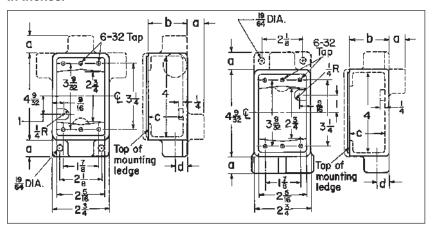


Size	Cat. #	Cat. #
1/2	FSLA1	FDLA1
3/4	FSLA2	FDLA2

^{*}Available in copper-free aluminum; add suffix "SA". †Mounting lugs not available.

Dimensions

In Inches:



Series	Hub Size	а	b	С	d	
FS	1/2	7/8	17/8	111/16	5/8	
	3/4	7/8	1 ⁷ / ₈	1 11/16	3/4	
	1	1	17/8	1 11/16	7/8	
	1/2	7/8	211/16	21/2	5/8	
FD	3/4	7/8	211/16	21/2	3/4	
	1	1	211/16	21/2	7/0	

2F

With and Without Mounting Lugs for **Threaded Rigid and IMC Conduit**

FS & FD



Size	Cat. #	Cat. #
1/2	FSCT1	FDCT1
3/4	FSCT2*	FDCT2*
1	FSCT3	FDCT3



Size	Cat. #	Cat. #
1/2	FST1*	FDT1
3/4	FST2*	FDT2
1		FDT3



Size	Cat. #	Cat. #
1/2	FSX1	FDX1
3/4	FSX2	FDX2
1		FDX3



Size	Cat. #‡			
1/2	FSCD1			
3/4	FSCD2			

*Available in copper-free aluminum; add suffix "SA". †6 Hubs – all $lat{9}/4$ " pipe tap. ‡ Not avaliable with mounting lugs.

FSY



Description	Hub Size	Cat. # ‡			
Single face	1	FSY311			
Double face	1	FSY312			

FDXC†

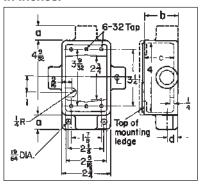
Accessories see pages 37-45

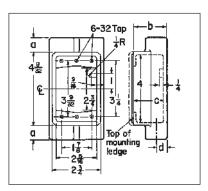


Hub Size	Cat. #‡
3/4	FDXC219

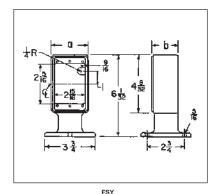
Dimensions

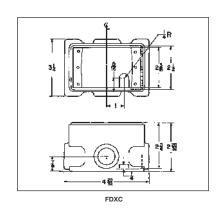
In Inches:





FSCT, FSX, FST, FSCD





FSCT, FSX, FST, FSCD

Series	Hub Size	а	b	С	d	
FS	1/2	⁷ / ₈	1 ⁷ / ₈	1 11/16	5/8	
	3/4	7/8	1 ⁷ /8	1 11/16	3/4	
	1	1	17/8	1 11/16	7/8	

FSY

Description	Hub Size	а	b
Single gang, single face	1	23/4	1 15/16
Single gang, double face	1	23/4	33/8

With and Without Mounting Lugs

片 FS

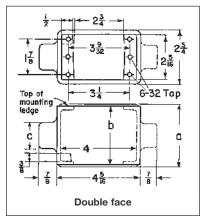


Double	Face
--------	------

Size	Cat. #†
1/2	FS152
3/4	FS252

Dimensions

In Inches:



Series	Hub Size	а	b	С
FS	1/2	35/16	31/8	11/4
	3/4	311/16	31/2	11/2



Double Face

Size	Cat. #†
1/2	FSC152
3/4	FSC252

†Mounting lugs not available.

FSE

Two Gang Size

Cat. # FSE22

Condulet® Multi-Gang Device Boxes -Cast Iron or Aluminum

With and Without Mounting Lugs for Threaded Rigid and IMC Conduit

FS†



 Two Gang Tandem

 Size
 Cat. #

 ½
 FS17

 ¾
 FS27

FS & FD



Two	Gang	
Size	Cat. #	Cat. #
1/2	FS12*	FD12
3/4	FS22*	FD22*
1	FS32	FD32

FSC & FDC



Two	Gang	
Size	Cat. #	Cat. #
1/2	FSC12	FDC12
3/4	FSC222	FDC222*
1	FSC32	FDC32

†Use single gang covers only.

*Available in copper-free aluminum; add suffix "SA".

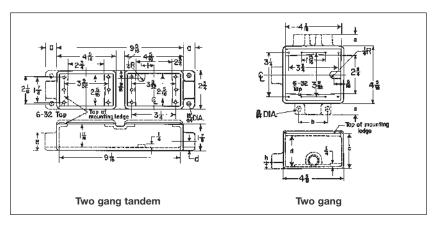
FSC†



	Two Size	Gang Cat.	Tandem #
1,	/2	FSC	17
3	/4	FSC	27

Dimensions

In Inches:



Two gang tandem

Series	Hub Size	а	b	е	
FS	1/2	7/8	5/8	11/4	
	3/.	7/	3/	11/	

Two gang

Series	Hub Size	а	b	С	d	h
FS	1/2	7/8	21/4	1 ⁷ / ₈	111/16	5/8
	3/4	7/8	21/4	1 ⁷ / ₈	1 11/16	3/4
	1	1	21/2	1 ⁷ / ₈	1 11/ ₁₆	7/8
	1/2	7/8	21/4	211/16	21/2	5/8
FD	3/4	7/8	21/4	211/16	21/2	3/4
	1	1	21/2	211/16	21/2	7/8

With and Without Mounting Lugs for Threaded Rigid and IMC Conduit

FSS & FDS



Two	Gang	
Size	Cat. #	Cat. #
3/4	FSS222	FDS222

FSD



Two Gang
Size Cat. #

3/4 FSD212*

*Hubs on 2 hub side are ½"

FS & FD



Three Gang				
Size	Cat. #	Cat. #		
3/4	FS23	FD23		
4	ECOO			

FSS

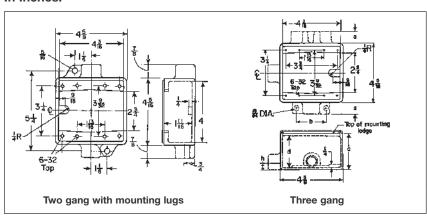


Three Gang
Size Cat. #

3/4 FSS23

Dimensions

In Inches:



Three gang				
Series	Hub Size	а	С	d
FS	³/₄ 1	⁷ / ₈	1 ⁷ / ₈ 1 ⁷ / ₈	1 11/ ₁₆ 1 11/ ₁₆
FD	3/4	7/8	211/16	21/2

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Condulet® Blank Device Boxes - Cast Iron

Accessories see pages 37–45

Blank Bodies With Mounting Lugs for Drilling and Tapping Single Gang, Multi-Gang, Tandem

Applications:

Blank cast device boxes are used:

- Where several wiring devices are to be grouped together
- To assemble special combinations of wiring devices
- Where special arrangements of conduit hubs or entrances are required

Features:

- Available in shallow (FS) or deep (FD) configurations.
- FS/FD bodies have thick walls for drilling and tapping conduit entrances.
- Internal green ground screw standard on boxes.
- Available in single, two, three, four and five gang and two gang tandem bodies.
- Cast mounting lugs at diagonally opposite corners.
- For a wide selection of standard surface or flush covers see pages 37–45.

Certifications and Compliances:

• UL Standard: 514A

• CSA Standard: C22.2 No. 18

Standard Materials:

• Feraloy iron alloy

Standard Finishes:

 Feraloy – electrogalvanized and aluminum acrylic paint



FS019, FD019 single gang



FS029, FD029 two gang



FS039, FD039 three gang



FD04 four gang



FD05 five gang



FS062, FD062 two gang



FS063, FD063 three gang



FS094, FD094 four gang



FS097, FD097 two gang tandem

Ordering Information:

Description	Shallow Cat. #	Deep Cat. #
Single gang	FS019	FD019
Two gang	FS029	FD029
Three gang	FS039	FD039
Four gang		FD04
Five gang		FD05
Two gang (takes one two gang cover)	FS062	FD062
Three gang (takes one three gang cover)	FS063	FD063
Four gang (takes one four gang cover)	FS094	FD094
Two gang tandem	FS097	FD097

*Available in copper-free aluminum. To order add suffix SA to Cat. No.

Condulet® Blank Device Boxes - Cast Iron

Blank Bodies for Drilling and Tapping Ordering Information

Ordering Information:

To order one of the blank bodies with drilled and tapped holes listed on see pages 31-33, proceed as follows:

Step 1

Select the required box.

Step 2

Select the arrangement that meets the requirements from Table 1.

Step 3

Determine the maximum size and spacing of conduit openings from Table 2.

Step 4

Substitute the appropriate symbol from Table 4 for each conduit entrance, using "0" (zero) for those locations on arrangement where an entrance is not required.

Example:

Step 1 – box required FS062

Step 2 – arrangement 1

Step 3 - conduit entrances - 1/2" at "a", none at "b"; 1" at "c" and "d"; none at "e" and "f".

Step 4 - symbols are substituted and written in alphabetical order starting with location "a". For this example A0CC00.

Complete Cat. No. is made up of three parts:

Part 1 – box number;

Part 2 - arrangement number;

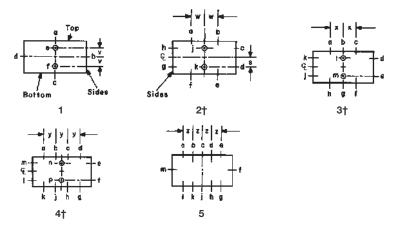
Part 3 - symbols for conduit entrances.

For this example:

FS062-1-A0CC00.

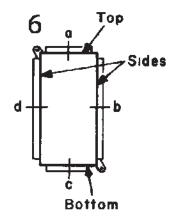
Table 1/Drilling and Tapping Arrangements*

Two, Three, Four and Five Gang

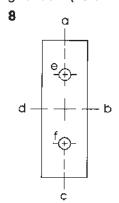


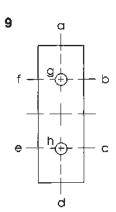
*Drilling and tapping arrangements other than those in Table 1 are available. Consult Eaton's Crouse-Hinds.
†If only one conduit entry is specified or permitted (see Table 2) on a side wall that conduit entry will be centered on the wall.

Single Gang Only (FS or FD019)



Two Gang Tandem (FS or FD097)





Blank Bodies for Drilling and Tapping Single-Gang, Multi-Gang, Tandem

Table 2/Maximum Number, Size and Spacing of Conduit Openings

Maximum Conduit Opening Size Top and Bottom Sides Back **Spacings** Cat. # 1 2 1 2 3 5 FS019 FD019* 11/2 11/2 FS029 1 $\frac{3}{4}$ 17/8 17/8 15/16 1 3/4 15/16 FD029* 17/8 17/8 11/2 11/2 11/2 1 FS039 1 33/4 33/4 $2^{1}/_{2}$ 17/8 FD039* 11/2 11/2 11/2 11/2 33/4 21/2 17/8 11/2 1 33/4 FD04 11/2 11/2 $1^{1}/_{2}$ 11/2 11/2 13/16 17/8 33/4 33/4 11/2 33/4 33/4 FD05 11/2 11/2 11/2 11/2 11/2 13/16 33/4 33/4 FS062 11/4 29/32 15/8 FD062 11/2 11/4 3/4 11/2 11/4 13/8 FS063 1 3/4 11/4 1 13/16 113/16 15/8 FD063 11/2 11/4 3/4 11/2 11/4 1 13/16 2 1⁷/₁₆ 1¹³/₁₆ 1 1 1 13/16 FS094 3/4 11/4 1 13/16 15/8 1 FD094 3/4 1 13/16 15/8 11/2 11/2 11/2 11/2 11/8 11/2 25/8 FS097 11/2 11/2 15/16 3/4 FD097 11/2 11/2 11/2 11/2 11/2 15/16 $\frac{3}{4}$

Table 3/Distance From Mounting Surface to Centerline of Conduit Opening ("u")

Cat. #	u	
FS019	29/32	
FD019*	1³/ ₈	
FS029	29/32	1 1
FD029*	1³/ ₈	! →
FS039	31/32	
FD039*	1³/ ₈	п ; ;
FD04	19/16	
FD05	19/16	11 /
FS062	15/32	
FD062	1 5/8	- {-(+-)
FS063	15/32	
FD063	1 5/8	
FS094	15/32	
FD094	19/16	11 31
FS097	15/32	١
FD097	1 9/ ₁₆	LI

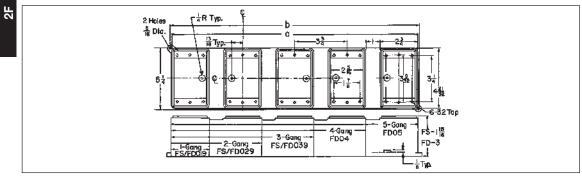
Table 4/Symbols for Openings

Conduit Size	Symbol
1/2	A
3/4	В
1	С
11/4	E
11/2	F
None	0

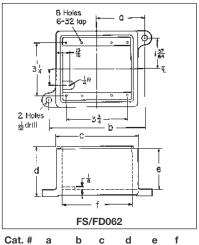
^{*}Available in copper-free aluminum. To order add suffix SA to Cat. No.

Condulet® Cast Device Boxes

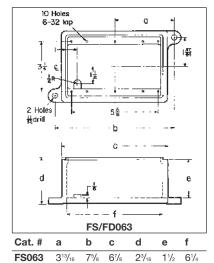
Blank Bodies for Drilling and Tapping Single-Gang, Multi-Gang, Tandem Dimensions (In Inches)



Cat. #	а	b
FS/FD019	31/4	31/4
FS/FD029	7	7
FS/FD039	10³/₄	103/4
FD04	14³/ ₈	15
FD05	181/8	18³/₄

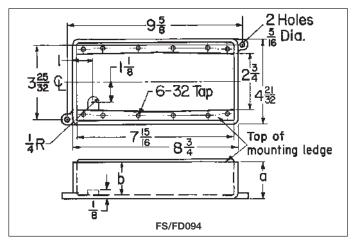


Cat. #	а	b	С	d	е	f
FS062	27/8	53/4	5	23/16	11/2	43/8
FD062	215/16	57/8	51/16	31/16	21/2	45/16

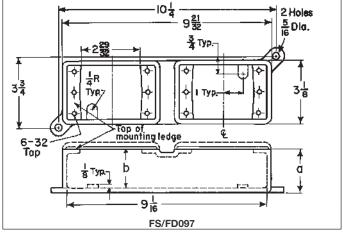


71/4 71/16

31/32 21/2 63/16



Cat. #	а	b
FS094	23/16	1 45/64
FD094	3	21/2



Cat. #	а	b		
FS097	2 ¹ / ₃₂	1½		
FD097	2 ²⁷ / ₃₂	25/16		

FD063

37/8

Condulet® Stainless Steel Conduit Device Boxes, Covers and Gaskets

Eaton's Crouse-Hinds Condulet[®] Stainless Steel Device Boxes deliver power where you need it, saving you time and money throughout the life of your facility.

Superior resistance to corrosion and heat, combined with unmatched strength, make stainless steel Condulet bodies and boxes a long-term solution for even the most extreme environments.

Applications:

Cast device boxes are installed in conduit systems to:

- · Accommodate wiring devices
- · Act as pull boxes for conductors in a conduit system
- Provide openings to make splices and taps in conductors
- Provide access to conductors for maintenance and future system changes
- Connect conduit systems

Features:

- Self-healing properties of stainless steel fittings help reduce the penetration of rust/corrosion and eliminate damage to the fitting
- Stainless steel fittings retain their strength in extreme heat and extreme cold conditions
- Fitting surface is easy to maintain and keep clean
- Easy cleaning capabilities make these fittings perfect for food processing and other hygienic areas where wash downs are common
- Superior strength and durability greatly reduce replacement of fittings - this will lower your total cost of ownership and increase your return on investment
- Stainless steel fittings do not require harsh environment-damaging cleaners to keep them looking like new
- Internal green grounding screw standard
- Tapered threads for protection of wire insulation
- Wide selection of covers available
- Single or double conduit entry
- Ample wiring room provided for easy installations

Certifications and Compliances:

- UL Standard 514A
- CSA Standard C22.2 No. 18.1-04
- Raintight when installed with cover and gasket

Standard Materials:

- Bodies 316 stainless steel
- Covers 316 stainless steel
- Cover Screws 316 stainless steel
- Gasket neoprene



Dimension

- A Length of box
- B Overall length (including hubs)
- C Width of box
- D Overall width (including hubs)
- E Height of box
- F Overall height (including hubs)

2F Condulet® Stainless Steel Conduit Device Boxes, Covers and Gaskets

The Ultimate in Corrosion Resistance and Durability

Ordering Information FD Device Body



Catalog Number	Trade Size	Α	В	С	D	E	F
FD2SS	3/4"	4.63	5.41	2.94	2.94	3.03	3.03

FDC Device Body



Catalog Number	Trade Size	Α	В	С	D	E	F
FDC2SS	3/4"	4.63	6.19	2.94	2.94	3.03	3.03

FDS Device Body



Catalog Number	Trade Size	Α	В	С	D	E	F
FDS2SS	3/4"	4.63	5.41	2.94	2.94	3.03	3.03

FDA Device Body



Catalog Number	Trade Size	Α	В	С	D	Е	F
FDA2SS	3/4"	4.63	4.63	2.94	2.94	3.03	3.80

FDX Device Body



Catalog Number	Trade Size	Α	В	С	D	Е	F
FDX2SS	3/4"	4.63	6.19	2.94	4.50	3.03	3.03

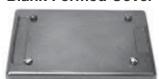
Ordering Information - Device Box Cover and Gasket

Blank Cover



Catalog Number
DS7000BC

Blank Formed Cover



Catalog Number
DS7000BF

Switch Formed Cover



Catalog Number
DS7000SF

Receptacle Formed Cover



Catalog Number
DS7000RF

Crouse-Hinds by F.T.N

Covers for Cast Iron or Aluminum Device Boxes WLRS and WLG Wet Location Covers

For NEMA Configuration Receptacle Interiors and GFCI Receptacles

Applications:

WLRS, WLRD and WLGF series wiring device covers are designed to meet the total NEC Code requirements for wet locations. WLRS, WLRD and WLGF series covers are suitable for use in wet and damp locations:

- Wherever portable equipment is required
- As general purpose utility receptacle covers
- For industrial, commercial or residential use
- In areas where electrical requirements do not exceed medium duty ratings
- To mount FS and FD single-gang or multi-gang boxes having individual cover openings (see Sect. 2F for listings)
- To mount on most flush device boxes (see Accessories)

Features:

WLRS, WLRD and WLGF covers:

- Self-closing spring door assures protection of wiring device at all times, in wet and damp locations
- One piece EPDM gasket provides environmental protection of wiring device at all times
- EPDM gasketing material offers excellent resistance to ozone, weather and temperature extremes of –50°F to 260°F
- Die cast, copper-free aluminum construction with aluminum lacquer finish provides maximum corrosion resistance
- Positive ground path ensured for all exposed metal parts

NEMA configuration receptacle interiors:

- Comply with NEMA Standards WD-1 and WD-5
- Grounded through an extra contact in all types except 3-phase applications; self grounded in duplex variety
- Back and side wired
- Offered in single and duplex configurations for use with standard plugs
- Specification grade

Certifications and Compliances:

- ANSI/UL Standard 514A
- NEC Code 410-57
- OSHA Standards, Subpart "S"
- NEMA Standards WD-1, 1974 (Straight Blade) and WD-5, 1972 (Locking Type)

Standard Materials:

- WLRS, WLRD and WLGF face plate and cover – die cast copper-free aluminum
- · Cover hinge spring stainless steel
- Cover screws corrosion resistant metal
- Gasket ethylene propylene rubber (EPDM)

Standard Finishes:

• Copper-free aluminum – aluminum lacquer

Electrical Rating Ranges:

20 and 30 amperes; 125, 250, 277, 480, 600, 125 / 250, 208 / 120, 480 / 277 or 600 / 347 volts



Accessories:

 Flush mounting adapter – WLRA-1 required for mounting on device boxes. (Order separately)



Typical installation

Spring Door Covers - with Gasket*

For NEMA Configuration Round Receptacles





Single cover Cat. #	Diameter	Duplex cover Cat. #	Diameter
WLRS1	13/8"	WLRD1	13/8"
WI RS2	11/2"		

^{*}Patent Number 4,058,358 †Horizontal mount only.

Spring Door Covers - with Gasket*

For GFCI Receptacles in Wet Locations



Horizontal Mount for flush device boxes Cat. #

WLGF



Horizontal Mount for FS and FD device boxes Cat. # 8

Vertical Mount for FS and FD device boxes Cat. #

WLGF FSV



37

WLGF FS

2-Pole

3-Wire Grounding

20 Amp

125V

250V

2F Covers for Cast Iron or Aluminum Device Boxes WLRS and WLG Wet Location Covers

For NEMA Configuration Receptacle Interiors and GFCI Receptacles

Ordering Information - Covers with and without NEMA Configuration Receptacles For Non-Locking Blade Plugs

		NEMA		Complete Cover with	Spring Door Cover &
Туре	Volts		juration	Receptacle Assy. Cat. #	Gasket Only Cat. #*
Single Devi	се				
2-Pole 3-Wire	125V		5-15R	WLRS 5 15	WLRS1
Grounding 15 Amp	250V	٩	6-15R	WLRS 6 15	WLRS1
2-Pole 3-Wire	125V	60	5-20R	WLRS 5 20	WLRS1
Grounding 20 Amp	250V	4	6-20R	WLRS 6 20	WLRS1
Туре	Volts	NEMA Config	juration	Complete Cover with Receptacle Assy. Cat. #	Spring Door Cover & Gasket Only Cat. #*
Duplex Dev	ice				
2-Pole 3-Wire	125V		5-15R	WLRD 5 15	WLRD1
Grounding 15 Amp	250V	9	6-15R	WLRD 6 15	WLRD1

Ordering Information - Covers with and without NEMA Configuration Receptacles For Locking Blade Plugs

5-20R

6-20R

WLRD 5 20

L5-15R WLRD L5 15 WLRD1

WLRD 6 20 WLRD1

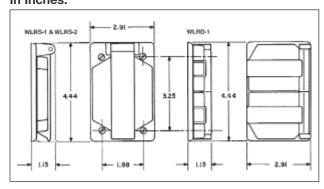
WLRD1

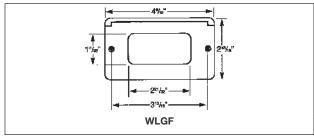
	Ü	NEMA	A .	Complete Cover with Receptacle	Spring Door Cover & Gasket Only
Type	Volts	Confi	guration	Assy. Cat. #	Cat. #*
Single Devi	се				
2-Pole 3-Wire	125V		L5-15R	WLRS L5 15	WLRS1
Grounding 15 Amp	250V		L6-15R	WLRS L6 15	WLRS1
2-Pole 3-Wire	125V	P	L5-20R	WLRS L5 20	WLRS2
Grounding 20 Amp	250V	(P)	L6-20R	WLRS L6 20	WLRS2
_		NEMA	-	Complete Cover with Receptacle	Spring Door Cover & Gasket Only
Туре	Volts	Confi	guration	Assy. Cat. #	Cat. #*
Duplex Dev 2-Pole	ice				

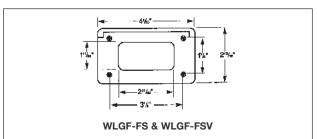
15 Amp

*Must be used with a wet locations rated wiring device.

Dimensions In Inches:







3-Wire

Grounding

Single Gang

Ordering Information



Blank cover for enclosing splices and taps where device not used.

Description	Material	Cat. #
Surface	Sheet aluminum	DS100
Flush	Sheet steel	DSS100



Blank cover with gasket for enclosing splices and taps where device not used.

Description	Material	Cat. #
Surface or Flush	Cast aluminum	DS100G





DS21 DS21G

For standard and 3-pole, 2-wire grounding type round flush receptacles. Opening diameter 17/16".

Description	Material	Cat. #
Surface	Sheet steel	DS21
Surface	Sheet aluminum	DS21 SA
Surface or flush	Feraloy® iron alloy with gasket	DS21G



For GFI receptacles.

Description	Material	Cat. #
Surface	Sheet steel	DS23 GFI



For flush plug receptacle requiring 15% opening diameter.

Description	Material	Cat. #
Surface	Sheet steel	DS35



For duplex convenience receptacles.

Description	Material	Cat. #
Surface	Sheet steel	DS23
Surface	Sheet aluminum	DS23 SA
Flush	Sheet steel	DSS23



For standard and 3-pole, 2-wire grounding type duplex convenience receptacles. Gasket included.

Description	Material	Cat. #
Surface	Feraloy®	DS23G
or flush	iron alloy	D323G



For square handle general use snap or toggle switches – unguarded.

Description	Material	Cat. #
Surface	Sheet steel	DS32
Surface	Sheet aluminum	DS32 SA



For square handle general use snap or toggle switches – guarded.

Description	Material	Cat. #
Surface or flush	Feraloy® iron alloy with gasket	DS32G
Surface	Sheet steel	DS52



Adapter plate for mounting WLRS/WLRD covers to flush device boxes.

Description	Cat. #
Flush Device Adapter	WLRA1

Also can be used to mount all covers with four corner screws listed see pages 37, 39, 40, 41, 42 and 43 to flush device boxes.

See page 42 for receptacle specifications and listings of complete receptacle/cover combinations. †Must be used with a wet locations rated wiring device.

Single Gang - Raintight Covers (Gasket Included)

Ordering Information



For general use snap switches. Includes gasket.

Description	Material	Cat. #
For standard ON-OFF operation	Copper-free aluminum	DS181



For general use snap switches. Includes gasket.

Description	Material	Cat. #
For standard ON-OFF operation. With hole for lock	Die cast aluminum	DS185



For general use snap switches. Includes gasket.

Description	Material	Cat. #
For standard operation. Marked ON-OFF handle	Cast aluminum	DS128

Single Gang - Switches and Motor Control Push Button

Ordering Information



For manual motor starting switches. Fits FS and FD boxes. Takes Westinghouse switches MST01 (1-pole) and MST02 (2-pole). Includes gasket.

Description	Material	Cat. #
For standard ON-OFF operation	Feraloy iron allov	DS199



Furnished with buttons for operating motor control push button switches. Includes gasket.

Description			Buttons Color	s Material	Cat. #
Button (normally open)	marked START	1	Green	Feraloy iron alloy	DS171F ①
Button (normally closed) marked STOP	1	Red	Feraloy iron alloy	DS171G ①
Button (normally open)	marked	1	Green		
START and button (normally closed) marked STOP		1	Red	Feraloy iron alloy	DS171 ①
Description	No.	Col	lor	Material	Cat. #
Two push button	2	Bla	ck	Feraloy iron alloy	DS171J ①
(1) If decised acceptions on india.					

1 If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

HAND	CLOSE	OFF	AUTO.	UP	RUN
EMER.	DOWN	JOG	FORWARD	START	RESET
REVERSE	STOP	TRIP	OPEN	ON	TEST
LGT. ON					



Heavy duty motor control push button switch

No. of Buttons	Normal Positions		Cat. #
1	1 circuit universal	هله • •	ED11
2	2 circuits universal	eia aia * * * *	ED12†

†Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed.

DS Covers use the switches shown in the list below.

Cover	Takes Switch	Cover	Takes Switch
DS171	ED12	DS171F	ED11
DS171G	ED11	DS266	ED12
DS265	FD11		

Single Gang - DS Receptacles and WP Plugs

Applications:

WP plugs and DS receptacles are used:

- Wherever dust, dirt, moisture and corrosion are a problem
- Outdoors or in locations where frequent washdowns occur, as in dairies and food processing plants

Features:

DS receptacle housings are used:

- With FS and FD cast device boxes, either surface mounted or installed flush in a wall
- With single gang, two gang tandem and multiple gang boxes having individual cover openings
- A threaded cap which effectively seals housing when not in use

WP plugs include:

- A molded Neoprene hood with integral sleeve to seal the cord entrance
- An aluminum ring which clamps the hood to receptacle housing face, to complete watertight seal when plug is in use

Certifications and Compliances:

UL Standards: 498; 514ANEMA/EEMAC: WD-1; WD-5

• CSA Standard: C22.2 No. 42*

*Compliance.

Standard Materials:

- Receptacle housings: body Feraloy® iron alloy; cap copper-free aluminum
- Plug exteriors: hood Neoprene; fastening ring copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Neoprene natural (black or yellow)

Electrical Rating Ranges:

- 15 amperes, 125 volts
- 20 amperes, 125, 250 volts









DS Receptacle housings

WP Plugs

CC Replacement receptacle

Grounding Type ReceptaclesFor Plugs with U shaped or Round Grounding Contacts

Rating	Cover With Recept. Cat. #	Diagram	Style	Plug Cat. #	Diagram	Cord Dia.	Repl. Recept. Cat. #
15 amps 125 volts	DS96*	NEMA: 5-15F	2-wire, 3-pole†	WP820	NEMA: 5-15P	.500 to .625	CC55
20 amps 125 volts	DS222	NEMA: 5-20F	2-wire, 3-pole†	WP832	NEMA: 5-20P	.500 to .625	CC71
20 amps 250 volts	DS290	NEMA: 6-20F	2-wire, 3-pole†	WP930	NEMA: 6-20P	.500 to .625	CC90

[†]Third pole grounded. *Compliance

For listing of typical FS cast devices boxes, see pages 23 and 24.

Covers for Cast Iron or Aluminum Device Boxes

Single Gang - Pilot Light Covers, Extensions and Adapters

Ordering Information



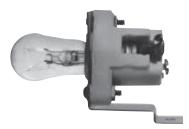
For pilot light units (furnished with jewels)

		Jewel	
Description	Material	Color	Cat. #
Surface	Sheet steel	Red	DS24



For pilot light units (furnished with jewel and gasket).

Description	Material	Jewel Color	Cat. #
Surface or flush	Feraloy iron allov	Red	DS24G



Pilot light unit (without transformer)

Circuit Voltage		Watts	Cat. #
110	Candelabra	6	C3310



Pilot light (with transformer)†, FD only

Circuit Voltage		Watts	Cat. #
440	Candelabra	6	C333
†Transformer 50-60 cycle, 440 / 110 volts.			



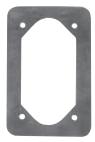
EXF Extensions (takes covers and flush rectangular wiring devices, or plug receptacles with housings)

Ext. Depth	Cat. #
1"	EXF11
2½"	EXF21



FS flush mounting adapter (can be used with multi-gang bodies having individual cover openings. Furnished with gasket and screws)

Mtg. Style	Cat. #	
Wall	FS031	



Gaskets for use between device boxes and covers.

Material	Cat. #	
Neoprene	GASK91‡	
tNot recommended as watertight		

Two Gang

Ordering Information



For flush general use snap switches with square handles

Material	Cat. #
Sheet steel	S32232



For flush general use snap switches with square handles

Description	Material	Cat. #
For round plug flush receptacles.	Sheet steel	S32212



For standard and 2-wire, 3-pole grounding

Description	Material	Cat. #
For round plug		
flush receptacles.	Sheet steel	S212
Surface		



For duplex convenience receptacles, standard and 2-wire, 3-pole grounding

Description	Material	Cat. #
Surface	Sheet steel	S232



For GFI receptacles

Description	Material	Cat. #
Surface	Sheet steel	S232 GFI



For round flush receptacles, duplex convenience receptacles, standard and 2-wire, 3-pole grounding

Description	Material	Cat. #
Surface	Sheet steel	S21232



For 20 amp., 250 volt receptacles

Description	Material	Cat. #
2-pole, Surface	Sheet steel	S612



Blank. Feraloy® iron alloy with gasket

Description	Material	Cat. #
Surface	Sheet steel	S1002
Surface or flush	Feraloy iron alloy	S1002G
Surface or flush	Copper-free aluminum	S1002G SA



For flush general use snap switches with square handles

Description	Material	Cat. #
Surface	Sheet steel	S322



For flush general use snap switches with square handles

Description	Material	Cat. #
Surface or	Feraloy	S322G
flush	iron allov	

Two Gang

Ordering Information



With operating mechanism and gasket

Description	Material	Cat. #
Two gang. For operation of general use snap switches. Surface or flush	Feraloy® iron alloy	DS1282



With operating mechanism and gasket

Description	Material	Cat. #
Three gang with gasket. For external operation of general use snap switches. Surface or flush.	Feraloy iron alloy	DS1283



Blank with gasket

Description	Material	Cat. #
Surface	Sheet steel	S1003
Surface or flush	Feraloy iron alloy	S1003G
Surface or flush *Includes gasket	Copper-free aluminum	S1003G SA



For flush general use snap switches with square handles

Description		Material	Cat. #
	Surface, three gang	Sheet steel	S323



Blank with gasket

Description	Material	Cat. #
Surface or flush	Feraloy iron allov	S1004G



For flush general use snap switches with square handles

Description	Material	Cat. #
Surface, four gang†	Sheet steel	S324

†For FS094 and FD094 boxes.



Gasket for use between device box and cover

Description	Material	Cat. #
Two gang	Rubber	GASK434
Three gang	Rubber	GASK460
Four gang	Rubber	GASK461

Applications:

 FSE series assemblies are used in outdoor areas for supplying power in remote locations, particularly parking lots, automobile engine block heaters, marinas, drive-in theaters, trailer camps, etc.

Features:

- · Compact design.
- Suitable for a variety of combinations.
- U ground duplex receptacle.
- Circuit breaker protection.
- Breakers cannot be manually tripped.

Certifications and Compliances:

• CSA Standard C22.2 No. 18

Standard Materials:

• Body and cover - copper-free aluminum

Standard Finishes:

• Copper-free aluminum - natural

Electrical Ratings:

• 15A 120V

Size:

• 2" integral hub for pole mounting.





FSE 6121

FSE 612

Ordering Information

Description
Description

FSE612 Double face receptacle body only

FSE6121 Fitting complete with 1-15 amp. duplex receptacle and blank cover.

FSE6122 Fitting complete with 2-15 amp. duplex receptacles.

FSE61212 Fitting complete with 1-15 amp. duplex receptacle and two 1- pole Minibreakers

FSE61211 Fitting complete with 1-15 amp. duplex receptacle and one 1- pole Minibreaker.

Other combinations available on request

3F

Description	Page No.
Application/Selection	see page 48
Lubricants	
HTL	see page 63
STL	see page 63
Conduit Bodies & Outlet Boxes	
Cylindrical	
EKC	see page 60
90° Elbow	
FE	see page 62
LBH	see page 61
LBY	see page 61
Rectangular	
OE	see page 59
Round	
C30 and C31 for IEC Applications	see page 57
CPS	see page 58
GUA	see pages 50-51
EAB	see page 54
EAB ATEX	see page 55
EAJ	see page 56
GUR Universal	see page 53
Tees	
Short Radius	
ET	see page 61
FT	see page 62

Condulet® Conduit Bodies and Outlet Boxes

Application and Selection

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Applications:

Hazardous area conduit bodies and outlet boxes are installed in rigid conduit systems in Class I and II hazardous locations to:

- Protect conductors
- · Act as pull and splice boxes
- · Connect lengths of conduit
- · Change conduit direction
- Provide access to conductors for maintenance and future system changes
- Act as mounting outlets for fixtures (with appropriate covers)
- · Act as sealing fittings (with appropriate covers)

Options and Accessories:

- Flat blank covers (surface and flanged flush), fixture support and sealing covers and extensions are available. See specific product listing for details.
- Lubricant (STL and HTL) are available to make joints raintight, provide for easy cover removal and to lubricate shafts over a wide temperature range.
- Corro-free™ epoxy powder coat information available on request.

Considerations for Selection:

- Determine the area classification per National Electrical Code Hazardous Area Groups. Based on this classification, select the product families that are acceptable for use in the particular location.:
- Establish functional physical requirements these will help to determine box size, cover, shape and mounting for the particular installation.
- Each product family has features suitable for specific functions:
- i.e., boxes used as mountings for lighting fixtures are generally of a small size, and provided with mounting lugs when required to support lighting fixtures.
- Boxes used for wire pulling should generally be larger to provide room for easy pulling.
- Boxes used to splice and/or tap conductors should be large enough to permit ease of work and sufficient room for the required size and number of conductors.
- Hub size and configuration dependent on the conduit system configuration and the conduit size used.
- Material and finish determine from environmental conditions (corrosive fumes, weather, buried in concrete, etc.)

Quick Selector Chart

Series	NEC Class I & II Groups	IEC Certifications	Normal Function	Cover Opening Diameter	Hub Size†	Cover Type
GUA	C, D E, F, G		Mtg. ltg. fixt., taps, pulling, splicing	2–5	1/2-2	Threaded
EAJ	A, B, C, D E, F, G		Pulling, splicing, taps	33/16 & 5	1/2-2	Threaded
C30 / C31		Ex II 2 G EEx d IIC T6 Ex II 2 D IP66 T 85°C	Pulling, splicing, taps	98mm (C30) 130mm (C31)	1/2-1	Threaded
EAB	A, B, C, D E, F, G		Pulling, splicing, taps	3	1/2-1	Threaded
EAB ATEX	A, B, C, D E, F, G	II 2 G EEx d IIC T5 PTB 05 ATEX 1052	Pulling, splicing, taps	33/4	1/2-1	Threaded
CPS	C, D E, F, G		Fixt. support, pulling, splicing	31/2	1/2 & 3/4	Ground joint
OE	C, D E, F, G		Pulling		1/2-1	Ground joint
ET	C, D E, F, G		Stub up		1/2-1	
FT		Flameproof, Exd, IIB, IP67, Zone 1 Combustible Dust Zone 21 & 22	Stub up		20mm - 25mm	Threaded
LBY	C, D E, F, G		Pulling		1/2 - 11/4	Threaded
LBH	B, C, D E, F, G		Pulling		1/2-4	Ground joint
FE		Flameproof, Exd, IIB, IP67, Zone 1 Combustible Dust Zone 21 & 22	Pulling		20mm - 25mm	Threaded
EKC	C, D E, F, G		Pulling		1/2-3	Ground joint
GUR	C, D E, F, G		Pulling, splicing	·	1/2-1	Threaded

†See following table for standard hub configuration.

Condulet® Conduit Bodies and Outlet Boxes

Standard Shape and Hub Selector

Shape Series	Page	Hub S	tyle									
GUA	see pages 50–52	GUA	GUAB	GUAC	GUAD	GUAL	GUAM	GUAN	GUAT	GUAW	GUAX	
EAB	see page 54			EABC		EABL			EABT		EABX	EABY
C30 / C31	see page 57								C30 / C31		C30 / C31	
EAJ	see page 56		EAJB	EAJC	EAJD	EAJL			EAJT		EAJX	
CPS	see page 58											CPS
GUR	see page 53											GUR
OE	see page 59		OELB	OEC		OELL		OELR	OET			

The fittings below are available only in the configurations shown.



Condulet® Conduit Outlet Boxes With Covers

GUA Series

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

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Applications:

GUA series conduit outlet boxes are installed within hazardous area conduit systems to:

- Protect conductors in threaded rigid conduit
- · Act as pull and splice boxes
- · Connect lengths of conduit
- Change conduit direction
- Provide access to conductors for maintenance and future system changes
- Act as mounting outlets for fixtures (with appropriate covers)
- Act as sealing fittings (with appropriate covers)

Features:

GUA conduit boxes have:

- Neoprene "O" ring standard to meet NEMA 4 requirements
- Cast ears on cover to permit easy removal and tightening
- Four standard mounting pads except for boxes with bottom hubs
- Threaded cover openings
- Ten different hub arrangements
- Taper threaded hubs to provide grounding continuity
- Smooth integral hub bushing protects conductor insulation when pulling
- Surface covers furnished with boxes
- Sealing covers, dome covers, and fixture hanger covers are available
- Cover threads are 12 pitch

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- ANSI Standard: C33.27
- CSA Standard: C22.2 No. 30
- NEMA/EEMAC 3, 4

Standard Materials:

- Bodies Feraloy iron alloy
- Covers Copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Aluminum natural

Size Ranges:

- Hub 1/2" to 2"
- Cover opening 2" to 5" dia.

Options:

Description	Suffix
Bodies - copper-free aluminum	SA†*
Covers - Feraloy iron alloy -	•
electrogalvanized and aluminum	
acrylic paint	WOD
GUA Form 6 (with 3" cover opening)	
are available with optional cover	
with viewing window.	VW
Corro-free epoxy powder coat	S752
To order box less cover add "0" to e	nd of
catalog number ie.GUAT260.	

When assembled with sealing type cover, GUA series outlet boxes provide adequate sealing for 40% fill in hazardous areas – Class I, Groups C, D; Class II, Groups E, F, G; and Class III. Seals can be made in either horizontal or vertical positions. Use *Chico*® "A" sealing compound or *Chico*® SpeedSeal only. Conductor splices or connections must not be made in enclosures where sealing compound is to be used per NEC.

GUA



Hub Size	Opening Dia.	Cat. #
1/2	2	GUA14
3/4	2	GUA24
1/2	3	GUA16
3/4	3	GUA26*
1	3	GUA36
1 1/4	35/8	GUA47
11/2	5	GUA59

GUAC



Hub Size	Opening Dia.	Cat. #
1/2	2	GUAC14†
3/4	2	GUAC24†
1/2	3	GUAC16*
3/4	3	GUAC26*
1	3	GUAC36*
11/4	3⁵/8	GUAC47†
11/4	5	GUAC49
11/2	5	GUAC59†
2	5	GUAC69†

†Available in copper-free aluminum, add suffix -SA. *Available in copper-free aluminum, add suffix -SA. GUA outlet boxes marked with * when ordered with suffix -SA are listed for Class I, Division 1 & 2, Groups B, C and D, Class II, Division 1, Groups E, F, G and Class III. Covers have 16 pitch threads. Replacement cover is a GUA06-GB.

GUAB

Cover



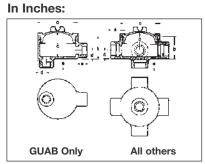
Hub Size	Opening Dia.	Cat. #
1/2	2	GUAB14†
3/4	2	GUAB24
1/2	3	GUAB16*
3/4	3	GUAB26*
1	3	GUAB36*
11/4	35/8	GUAB47†
11/2	5	GUAB59†
2	5	GUAB69†

GUAD



Hub	Cover Opening	
Size	Dia.	Cat. #
1/2	2	GUAD14†
3/4	2	GUAD24
1/2	3	GUAD16
3/4	3	GUAD26†
1	3	GUAD36†
11/4	5	GUAD49

Dimensions



GUA, GUAD, GUAM, GUAW, GUAX

Cat. #	а	b	С	d
14	21/2	1 13/ ₁₆	13/4	5/8
24	21/2	2	2	3/4
16	31/2	2	17/8	5/8
26	31/2	2	17/8	3/4
36	31/2	25/16	23/16	7/8
37	$4^{1}/_{4}$	25/16	23/8	7/8
47	$4^{1}/_{4}$	211/16	23/4	13/32
49	53/4	313/16	33/4	13/32
59	53/4	313/16	33/4	19/32
69	53/4	41/16	4	1 %16

Length of Hub Hub Size	Dimension "e" Length
1/2 - 3/4	7/8
1 - 11/4	1
11/2 - 2	1 ½16

Crouse-Hinds

Condulet® Conduit Outlet Boxes With Covers

GUA Series

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG

Explosionproof Dust-Ignitionproof Raintight Wet Locations

GUAL



Hub Size	Cover Opening Dia.	Cat. #
1/2	2	GUAL14†
3/4	2	GUAL24†
1/2	3	GUAL16*
3/4	3	GUAL26*†
1	3	GUAL36*
1 1/4	35/8	GUAL47†
1 1/4	5	GUAL49†
1 1/2	5	GUAL59†
2	5	GUAL69†

GUAN



Hub Size	Cover Opening Dia.	Cat. #
1/2	2	GUAN14
3/4	2	GUAN24
1/2	3	GUAN16
3/4	3	GUAN26
1	3	GUAN36†
11/4	35/8	GUAN47
11/2	5	GUAN59†
2	5	GUAN69

GUAT



Hub Size	Cover Opening Dia.	Cat. #
1/2	2	GUAT14†
3/4	2	GUAT24†
1/2	3	GUAT16*
3/4	3	GUAT26*
1	3	GUAT36*
1	35/8	GUAT37
11/4	35/8	GUAT47†
11/4	5	GUAT49†
1 1/2	5	GUAT59†
2	5	GUAT69†

GUAX



Hub Size	Cover Opening Dia.	Cat. #
1/2	2	GUAX14†
3/4	2	GUAX24†
1/2	3	GUAX16*
3/4	3	GUAX26*
1	3	GUAX36*
1	35/8	GUAX37†
1 1/4	35/8	GUAX47†
1 1/4	5	GUAX49
1 1/2	5	GUAX59†
2	5	GUAX69†

GUAM



Hub Size	Cover Opening Dia.	Cat. #
1/2	2	GUAM14†
3/4	2	GUAM24
1/2	3	GUAM16
3/4	3	GUAM26
1	3	GUAM36
11/4	35/8	GUAM47
2	5	GUAM69

GUAW



Hub Size	Cover Opening Dia.	Cat. #
1/2	2	GUAW14†
3/4	2	GUAW24†
1/2	3	GUAW16
3/4	3	GUAW26*†

Dimensions GUAC, GUAT

Cat. #	а	b	С	d
14	21/2	21/4	23/16	5/8
24	21/2	2	2	3/4
16	31/2	2	17/8	5/8
26	31/2	2	17/8	3/4
36	31/2	25/16	23/16	7/8
37	41/4	25/16	23/8	7/8
47	41/4	211/16	23/4	13/32
49	53/4	313/16	33/4	15/32
59	5 ³ / ₄	313/16	33/4	19/32
69	53/4	41/16	4	19/16

GUAN

Cat. #	а	b	С	d
14	21/2	21/8	21/16	5/8
24	21/2	25/16	21/4	3/4
16	31/2	2	17/8	3/4
26	31/2	2	17/8	3/4
36	31/2	25/16	2 ³ / ₈	7/8
47	$4^{1}/_{4}$	211/16	23/4	13/32
59	53/4	41/16	4	19/32
69	53/4	41/16	4	1 %16

GUAB, GUAL

····,		_		
Cat. #	а	b	С	d
14	21/2	21/4	23/16	5/8
24	21/2	21/2	27/16	3/4
16	31/2	2	1 ⁷ / ₈	5/8
26	31/2	2	1 ⁷ / ₈	3/4
36	31/2	25/16	23/16	7/8
47	$4^{1}/_{4}$	211/16	23/4	13/32
49	53/4	313/16	33/4	15/32
59	53/4	313/16	33/4	19/32
69	53/4	41/16	4	1 9/ ₁₆

†Available in copper-free aluminum, add suffix -SA.
*Available in copper-free aluminum, add suffix -SA. GUA outlet boxes marked with * when ordered with suffix -SA are listed for Class I, Division 1 & 2, Groups B, C and D, Class II, Division 1, Groups E, F, G and Class III. Covers have 16 pitch threads. Replacement cover is a GUA06-GB.

For GUA Condulet® Conduit Outlet Boxes

Cover

3"

35/81

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Applications:

Threaded covers, canopies and extensions are used:

- To provide a seal in hazardous areas (sealing cover). See note below.
- To mount pendant lighting fixtures such as EVA listed in lighting section (fixture canopy)
- To mount EVA pendant lighting fixtures on cover which is then screwed into outlet box without twisting conductors (union hub cover)
- To mount pendant lighting fixtures on cover which is then screwed into outlet box as above, for wiring after fixture stem is installed (nipple cover)
- To provide means of increasing outlet box depth (threaded extension)

Features:

- Surface covers are supplied with GUA boxes
- Sealing cover has removable plug for filling enclosure with sealing compound after installation. Sealing cover meets 40% fill requirement of the NEC®. See note below.
- Fixture canopy has a threaded cover in its side to provide access for making splices or taps. Fixture with its conduit stem and canopy can be assembled and wired before installation and conductors can be spliced in canopy after it has been screwed into the body
- Cover threads are 12 pitch.

Standard Materials:

- Surface and dome covers, union hub covers, nipple covers – copper-free aluminum
- Sealing covers, fixture canopies, threaded extensions – Feraloy® iron alloy

Standard Finishes:

- Aluminum natural
- Feraloy iron alloy electrogalvanized and aluminum acrylic paint

Options:

Description	Suffix
Corro-free™ epoxy powder coat	S752
To order an iron surface cover	WOD

Size Ranges:

- Fixture stems 3/4"
- Body openings 2" to 5"

Note: Depth of sealing compound in body must satisfy requirements of NEC section 501-5 (C-3). Splices and taps in sealing fittings are prohibited by NEC.

GUA Threaded Extension



Opening Dia.	Ext. Depth	Cat. #
3	11/4	GUA0631
GUA Cover Opening	Replacemen Gasket Cat.	
2"	GASK1713	

GASK1151

GASK1589 GASK925

Surface Cover



Opening Dia.	Thread Pitch	Cat. #
2	12	GUA04
3	12	GUA06
3	16	GUA06 GB*
35/8	12	GUA07
5	12	GUA09

Dome Cover

Cover



Opening Dia.	Ext. Depth	Thread Pitch	Cat. #
2	2	12	GUA047
3	2	12	GUA067
35/8	2	12	GUA077
35/8	4	12	GUA0716
5	4	12	GUA514
5	10	12	GUA5110

Sealing Cover



Cover Opening Dia.	Thread Pitch	Cat. #
2	12	GUA041
3	12	GUA062
3	16	GUA062 GB*
35/8	12	GUA072†
5	12	GUA092

Nipple Cover



Cover	Fixt.		
Opening	Stem	Thread	0 . "
Dia.	Size	Pitch	Cat. #
3	3/4	12	GUA0672

Fixture Cover Union Hub Type



Cover	Fixt.		
Opening Dia.	Stem Size	Thread Pitch	Cat. #
3	3/4	12	GUA0687

Fixture Canopy



Cover	Fixt.		
Opening	Stem	Thread	
Dia.	Size	Pitch	Cat. #
3	3/,	12	GHANES

†Also used with GUP bodies see page 753 or GU and GUE bodies see page 722. *GUA covers with 16 pitch threads are used with GUA bodies ordered with -SA suffix identified with * symbol see pages 50–51.

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Condulet® Conduit Outlet Boxes With Covers

GUR Series

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 4 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Applications:

GUR conduit outlet boxes are installed within hazardous areas:

- To protect conductors in threaded rigid conduit
- To act as pull and splice boxes
- To connect lengths of conduit
- To provide access to conductors for maintenance and future system changes
- To change conduit direction
- Where space is limited, such as underneath gasoline pumps

Features:

GUR outlet boxes feature:

- Neoprene O-ring standard in cover to meet NEMA 4/UL Type 4 requirements
- Internal green ground screw
- Five standard hubs with three pipe plugs included
- Threaded cover opening
- · Recesses in cover to assist in cover tightening and removal
- Smooth, integral hub bushing to protect conductor insulation when pulling
- · Compact design for confined spaces
- UL and cUL listing
- Optional all-aluminum construction

Certifications and Compliances:

NEC/CEC

Class I, Division 1 and 2, Groups C and D Class II, Division 1, Groups E, F and G Class III

Zone 1 and 2

- UL Standard 1203
- cUL to CSA Standard C22.2 No. 30
- NEMA 4

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized with aluminum acrylic paint
- Aluminum natural

Options:

Description	Suffix
Bodies - copper-free aluminum	SA

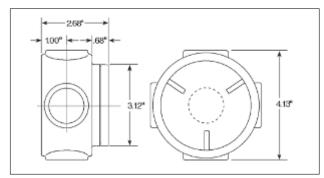


Ordering Information:

Hub Size	Cat. #
1/2"	GUR1
3/4"	GUR2
1"	GUR3

Dimensions

In Inches:



Condulet® Conduit Outlet Boxes With Covers

EAB Series

Cl. I, Div. 1 & 2, Groups A, B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3,4,7ABCD,9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

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Applications:

EAB series conduit outlet boxes are installed in conduit systems within hazardous areas to:

- Provide protection against exterior explosion where acetylene, hydrogen and other hazardous gases are present
- Protect conductors in threaded rigid conduit
- · Act as pull and splice boxes
- Interconnect lengths of conduit
- · Change conduit direction
- Provide access to conductors for maintenance and future system changes

Features:

EAB series conduit outlet boxes have:

- Five different hub configurations
- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Threaded cover openings
- · Surface covers furnished with boxes
- Neoprene "o"-ring gasket and green ground screw are both standard.
- Four standard mounting pads, except for EABY.
- Cover threads are 16 pitch.

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups A, B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Aluminum natural

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers Copper-free aluminum

Options:

Description	Suffix
Bodies - copper-free aluminum	SA†
Covers - Feraloy iron alloy -	
electrogalvanized and aluminum	
acrylic paint	WOD
Corro-free epoxy powder coat	S752

Size Ranges:

- Hub 1/2" to 1"
- Cover opening 3" dia.

EABC



Hub Size	Cat. #	
1/2	EABC16†	
3/4	EABC26	
1	EABC36†	

EABT



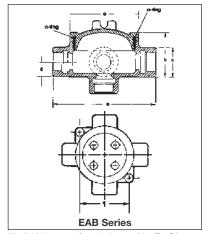
Hub	
Size	Cat. #
1/2	EABT16†
3/4	EABT26†
1	EABT36†

EABL



Hub Size	Cat. #	
1/2	EABL16†	
3/4	EABL26†	
1	EABL36†	

Dimensions In Inches:



†Available in copper-free aluminum, add suffix -SA. *EAB0687 is listed for Group C & D only.

EABX



Hub Size	Cat. #	
1/2	EABX16†	
3/4	EABX26†	
1	EABX36†	

EABY



Hub		
Size	Cat. #	
1/2	EABY16†	
3/4	EABY26†	

Replacement Cover:

Size	Cat. #
3"	EAB06

Replacement O-Ring:

Description	Cat. #
Replacement O-Ring	GASK1151

Fixture Cover Union Hub Type



Cover	Fixt.	
Opening Dia.	Stem Size	Cat. #
3"	3/4	EAB0687*

EAB Series

Cat. #	а	b	С	d	е	f
16	33/4	217/32	11/2	3/4	55/16	33/32
26	$3^{3}/_{4}$	$2^{25}/_{32}$	13/4	7/8	59/16	33/32
36	33/4	$2^{25}/_{32}$	13/4	7/8	59/16	33/32

Condulet® Conduit Outlet Boxes With Covers

EAB Series with UL, cUL and **ATEX Certifications**

Cl. I, Div. 1 & 2, Groups A, B, C, D Cl. II, Div. 1 & 2, Groups E, F, G II 2 G EEx d IIC T5 PTB 05 ATEX 1052 UL and cUL Listed

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Type 4 Enclosure / IP66

Applications:

EAB ATEX series conduit outlet boxes are installed in conduit systems within hazardous areas to:

- Provide protection against exterior explosion where acetylene, hydrogen and other hazardous gases are present
- Protect conductors in threaded rigid conduit
- Act as pull and splice boxes
- · Interconnect lengths of conduit
- Change conduit direction
- Provide access to conductors for maintenance and future system changes

Features:

EAB ATEX series conduit outlet boxes have:

- Two different hub configurations
- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Threaded cover openings
- · Surface covers furnished with boxes
- Neoprene "o"-ring gasket and green ground screw are both standard.
- Cover threads are 16 pitch.

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups A, B, C, D Class II, Division 1 & 2, Groups E, F, G Class III II 2 G EEx d IIC T5 PTB 05 ATEX 1052

- UL Standard: 1203
- · cUL Listed to CSA Standard: C22.2 No. 30
- Type 4 Enclosure
- IP66

Standard Materials:

- Bodies Feraloy® iron alloy or copperfree aluminum
- Covers Copper-free aluminum

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Aluminum natural

Options:

Description Suffix to be added to Cat. #

Covers - Feraloy iron alloy - electrogalvanized and aluminum acrylic Corro-free epoxy

WOD S752

Size Ranges:

Hub – ½" to 1"

powder coat

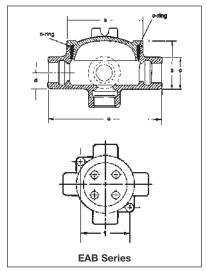
• Cover opening - 3" dia.

EABX



Hub		
Size	Body Material	Cat. # †
1/2	Feraloy® Iron	EABX16 ATEX
1/2	Copper-free Aluminum	EABX16 SA ATEX
3/4	Feraloy® Iron	EABX26 ATEX
3/4	Copper-free Aluminum	EABX26 SA ATEX
1	Feraloy® Iron	EABX36 ATEX
1	Copper-free Aluminum	EABX36 SA ATEX

Dimensions In Inches:



†Available with 6-point Phoenix MBK type terminal block mounted on DIN rail. Add suffix DIN16 before ATEX.
Ordering example: EABX26 DIN16 ATEX
*EAB0687 is listed for Group C & D only.

EABY



Hub Size	Body Material	Cat. # †
1/2	Feraloy® Iron	EABY16 ATEX
1/2	Copper-free Aluminum	EABY16 SA ATEX
3/4	Feraloy® Iron	EABY26 ATEX
3/4	Copper-free Aluminum	EABY26 SA ATEX

Replacement Cover:

Size	Cat. #
3"	EAB06

Replacement O-Ring

Description	Cat. #	
Replacement O-Ring	GASK1151	

Fixture Cover Union Hub Type



		,
Cover	Fixt.	
Opening	Stem	
Dia.	Size	Cat. #
3"	3/4	EAB0687*

EAB Series

Cat. #	а	b	С	d	е	f
16	33/4	217/32	11/2	3/4	55/16	33/32
26	33/4	225/32	13/4	7/8	59/16	33/32
36	33/4	225/32	13/4	7/8	59/16	33/32

Condulet® Conduit Outlet Boxes With Covers

EAJ Series

Cl. I, Div. 1 & 2, Groups A‡, B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7ABCD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

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Applications:

EAJ series conduit outlet boxes are installed in conduit systems within hazardous areas to:

- Protect conductors in threaded rigid conduit
- Act as pull and splice boxes
- Interconnect lengths of conduit
- Change conduit direction
- Provide access to conductors for maintenance and future system changes
- Act as mounting outlets for fixtures (with appropriate covers)
- Act as sealing fittings (with appropriate covers)

Features:

EAJ conduit outlet boxes have:

- Water shedding cover suitable for wet locations when mounted in upright position
- External cover threads on body protecting conductors from damage during pulling
- No pinching of conductors during cover installation
- Six different hub arrangements
- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Internally threaded cover openings for additional wiring room
- Flat overlapping threaded covers furnished with boxes
- Weather-resistant finish
- Green ground screw standard in all boxes
- Four standard mounting pads, except for EAJB and EAJD

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups A‡,B,C,D Class II, Division 1, Groups E,F,G Class II, Division 2, Groups F,G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Body Feraloy® iron alloy
- Cover copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Aluminum natural

Options:

Optionsi	
Description	Suffix
Bodies - copper-free aluminum	SA†
Covers – Feraloy iron alloy – electrogalvanized and aluminum	
acrylic paint	WOD
Corro-free epoxy powder coat	S752

Size Ranges:

- Hub 1/2" to 2"
- Cover opening 33/16" to 5" dia.

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EAJB



h	Opening Dia.	Hub Size	Cat. #
7	33/16	1/2	EAJB16†
	33/16	3/4	EAJB26†
	33/16	1	EAJB36†

EAJC

	14	18.	-	
-	-64	En	3 3	۵.
-	鰑		庭)	e
	192	540	19	
	63			

Opening Dia.	Hub Size	Cat. #
33/16	1/2	EAJC16†
33/16	3/4	EAJC26†
33/16	1	EAJC36†

EAJD



Hub Size	Cat. #
1/2	EAJD16†
³/₄ 1	EAJD26† EAJD36†
	\$\frac{1}{2} \\ \frac{3}{4}

EAJL



Opening Dia.	Hub Size	Cat. #
33/16	1/2	EAJL16†
33/16	3/4	EAJL26†
33/16	1	EAJL36†

Cover

EAJT



Opening Dia.	Hub Size	Cat. #
33/16	1/2	EAJT16†
33/16	3/4	EAJT26†
33/16	1	EAJT36†
5	1 1/4	EAJT49†‡
5	1 1/2	EAJT59†‡
5	2	EAJT69†‡

EAJX

A ELE	Cover Opening Dia.	Hub. Size	Cat. #
	33/16	1/2	EAJX16†
STATE OF	33/16	3/4	EAJX26†
	33/16	1	EAJX36†

EAJ Threaded Covers



Flat Covers

Cover Opening Dia.	Cat. #
33/16	EAJ06
5	EAJ09

Dome Covers



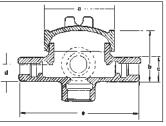
Cover Opening Dia.	Depth	Cat. #
33/16	2	EAJ0612

Fixture Covers



Union H	lub Ty	/ре
Cover	Fixt.	
Opening	Stem	
Dia.	Size	Cat. #
33/16	3/4	EAJ0687*

Dimensions In Inches:



Cat.	#	а	b	С	d	е	f
16		33/4	217/32	11/2	3/4	55/16	33/32
26		33/4	225/32	13/4	7/8	$5^{9}/_{16}$	33/32
36		33/4	$2^{25}/_{32}$	13/4	7/8	59/16	33/32
49		$5^{3}/_{4}$	$4^{1}/_{16}$	23/16	13/32	75/16	$4^{3}/_{4}$
59		$5^{3}/_{4}$	$4^{1}/_{16}$	3	11/2	713/16	$4^{3}/_{4}$
69		$5^{3}/_{4}$	41/16	3	1 1/2	713/16	43/4

*EAJ0687 is listed for Group C & D only. †Available in copper-free aluminum, add suffix -SA. ‡Form 9 products with 5" cover opening are not suitable for Group A.

Condulet® Conduit Outlet Boxes With Covers

for IEC Applications

Applications:

C30 and C31 series conduit outlet boxes are installed in electrical systems within hazardous areas to:

- Provide protection against exterior explosion where acetylene, hydrogen and other hazardous gases are present
- Protect conductors in threaded rigid conduit
- Act as pull and splice boxes
- Interconnect lengths of conduit
- Change conduit direction
- Provide access to conductors for maintenance and future system changes

Features:

C30 and C31 series conduit outlet boxes have:

- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Threaded cover openings
- Surface covers furnished with boxes
- Neoprene "o"-ring gasket and green ground screw are both standard
- Cover threads are 16 pitch

Certifications and Compliances:

• IEC:

Ex d IIC T6 Ex tD A21 IP67 T85°C

EC-Type examination certificate LOM 02 ATEX 2037 X

Compliant to EN60079-0

IP67

Standard Materials:

- Bodies Light alloy, natural finish
- Covers Light alloy, natural finish

Technical Specifications

Operating temperature range	-50°C to +55°C
Degree of protection	IP67
Rated voltage	up to 690V
Rated current	Acc. terminals
Terminals	C30 Series:
	up to 6mm ²
	C31 Series:
	up to 10 mm ²

C30 Series



Ex II 2 G EEx d IIC T6

Ex II 2 D IP66 T 85°C

C31 Series



Ordering Information

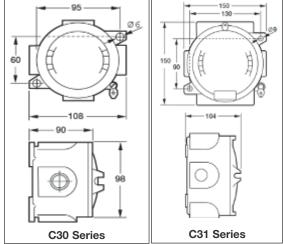
Series	Shape	Hub Size	Cat. # †
C30	Т	3 x ¹ / ₂ "	NOR 000 001 151 181
C30	Т	3 x ³ / ₄ "	NOR 000 001 151 199
C30	Χ	4 x ¹ / ₂ "	NOR 000 001 151 206
C30	Χ	4 x ³ / ₄ "	NOR 000 001 151 214
C31	Т	3 x ¹ / ₂ "	NOR 000 111 150 001
C31	Т	3 x ³ / ₄ "	NOR 000 111 150 002
C31	T	3 x 1"	NOR 000 111 150 003
C31	Χ	4 x ¹ / ₂ "	NOR 000 111 150 004
C31	Χ	4 x ³ / ₄ "	NOR 000 111 150 005
C31	X	4 x 1"	NOR 000 111 150 006

Accessories

Description	Cat. #
C30 Mounting plate with pillar terminals 4 x 4mm ²	NOR 000 001 151 222
C30 support rail DIN 46877	NOR 000 000 115 314
C30 mounting plate without terminals	NOR 000 000 115 302
C30 pending support	NOR 000 000 115 311
C31 mounting plate with pillar terminals 4 x 4mm ²	NOR 000 111 150 009
C31 mounting plate without terminals	NOR 000 000 115 306
C31 support rail DIN 46877	NOR 000 000 115 315

Dimensions

In Inches:



†Other entries available upon request.

3F

Condulet® Conduit Outlet Boxes With Covers

CPS Series

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 7CD,9EFG

Explosionproof **Dust-Ignitionproof**

Applications:

CPS series conduit outlet boxes are installed in conduit systems in hazardous areas to:

- · Protect conductors in threaded rigid conduit
- · Act as pull and splice boxes
- · Change conduit direction
- · Interconnect lengths of conduit
- · Act as fixture hangers with hub covers
- Provide access to conductors for maintenance and future system changes

Features:

CPS conduit outlet boxes have:

- Two types of cover: blank for splice or pull box use threaded hub for mounting light fixtures
- Wide, accurately machined body and cover mating surfaces, to insure flametight joint
- Blind tapped holes for cover screws to further insure flametightness
- Removable mounting feet for flush or surface mounting to wall or ceiling

Certifications and Compliances:

• NEC/CEC

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- CSA Standard C22.2 No. 30

Standard Materials:

• Feraloy® iron alloy

Standard Finishes:

• Electrogalvanized and aluminum acrylic paint

Options:

Description Suffix Corro-free[™] epoxy powder coat S752

Box with Hub Cover



Hub Size Body‡	Cover	Cat. #
3/4	1/2	CPS12021
3/4	3/4	CPS12022

 $\mbox{\ \ 4}$ standard taper tapped, integrally bushed hubs. Three hubs are plugged.

Box with Blank Cover



_	
Hub Size	Cat. #
3/4	CPS12026

CPS Covers



Blank Covers	
Description	Cat. #
Form 20	CPS026

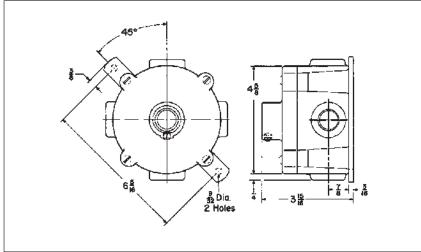
Hub Covers*



Description	Hub Size	Cat. #
Form 20	1/2	CPS021
Form 20	3/4	CPS022

^{*}Fixture weight up to 125 lbs.

Dimensions In Inches:



Complete line of fixture hangers are located in section 7L of this catalog.

3

Condulet® Conduit Bodies With Covers

OE Series

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 7CD, 9EFG

Applications:

OE series are installed in conduit systems within hazardous areas to:

- · Protect conductors in threaded rigid conduit
- Act as pulling and splice fittings
- Interconnect lengths of conduit
- · Change direction of conduit
- · Provide access for maintenance and future system changes

Features:

OE conduit outlet bodies have:

- Taper threaded hubs for ground continuity
- Smooth integral hub bushings to protect conductor insulation when pulling
- Five different hub arrangements
- · Accurately machined body with blind tapped screw holes
- Most compact design of all hazardous area outlet bodies

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Feraloy® iron alloy (1/2" and 3/4" fittings)
- Copper-free aluminum (1" fittings)

Standard Finishes:

• Electrogalvanized and aluminum acrylic paint

Options:

Suffix Description Corro-free™ epoxy powder coat S752

Size Ranges:

• Hub - 1/2" to 1"





Hub Size	Cat. #
1/2	OEC1
3/4	OEC2
1	OEC3 SA

OELL



Hub Size	Cat. #
1/2	OELL1
3/4	OELL2
1	OELL3 SA

OET

Explosionproof

Dust-Ignitionproof



Hub Size	Cat. #
1/2	OET1
3/4	OET2
1	OET3 SA

OELB



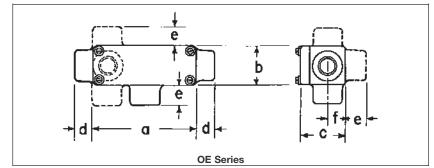
Hub Size	Cat. #
1/2	OELB1
3/4	OELB2
1	OELB3 SA

OELR



Hub Size	Cat. #
1/2	OELR1
3/4	OELR2
1	OELR3 SA

Dimensions In Inches:



Hub Size in.	а	b	С	d	е	f	
1/ ₂ 3/ ₄	4 ¹ / ₁₆ 4 ⁵ / ₁₆	19/ ₁₆ 1 ⁷ / ₈	1 13/16 2 1/16		7/8 7/8	5/ ₈ 3/ ₄	

Condulet® Conduit Bodies With Covers

EKC Series

Cl. I, Div. 1 & 2, Groups C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

Dust-Ignitionproof

CI. III

NEMA 7CD,9EFG

Applications:

EKC series conduit outlet bodies are installed in conduit systems within hazardous areas to:

Provide convenient opening in conduit system for pulling or splicing conductors

Features:

EKC bodies have:

- · Accurately machined body and cover mating surfaces to ensure flametight joint when properly assembled
- Extra long cover opening to facilitate pulling and splicing of conductors
- Taper threaded hubs and integral bushing for rigid threaded conduit

Certifications and Compliances:

• NEC:

EKC 30 - 60

Class I, Division 1 & 2, Groups C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

EKC 70, 80

Class I, Division 1 & 2, Group D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

• EKC bodies - Feraloy iron alloy

Standard Finishes:

• Feraloy - electrogalvanized and aluminum acrylic paint

Options:

Description Suffix EKC series: Corro-free™ epoxy powder coat S752

Size Ranges:

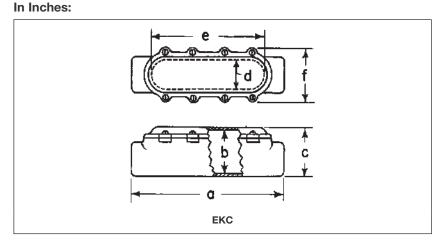
• EKC bodies - hub size - 1" to 3"

Ordering Information



Hub Size	Cat. #	
1	EKC30	_
11/4	EKC40	
11/2	EKC50	
2	EKC60	
21/2	EKC70	
3	EKC80	

Dimensions



EKC Size	а	b	С	d	е	f
1 - 11/4	12 ⁵ / ₈	31/16	37/16	13/4	9	4
11/2 - 2	1515/16	37/8	45/16	21/2	12	5
$2^{1/2} - 3$	213/4	51/2	6	33/4	16	6 ⁵ / ₈

Condulet® Conduit Bodies With Covers; Elbows and Tees

LBH. LBY. ET Series

Cl. I, Div. 1 & 2, Groups A, B, C, D* Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 7ABCD,9EFG

Explosionproof Dust-Ignitionproof

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Applications:

LBH conduit outlet bodies are installed in hazardous areas to:

- · Act as pull outlets especially for conductors that are stiff due to large size or type of insulation
- Make 90° bends in conduit system. allowing straight pull in either direction
- Provide for conduit service entrance to buildinas
- Provide for conductor entrance to motors
- Provide access to wiring for maintenance and future system changes

LBY elbows are installed in conduit systems within hazardous areas to:

- Make 90° bends in conduit systems where space is limited
- · Act as pull outlets
- · Provide access to conductors for maintenance and future system changes

ET series short radius tees are installed in conduit systems within hazardous areas to:

• Allow single conduit stub up to outlet and device boxes located above or below main conduit runs. Eliminates separate feed and return conduits

Features:

LBH bodies have:

- Cover openings on an angle, permitting conductors to be pulled straight through hubs from either direction
- Domed covers to permit easy conductor bends (relieves strain on insulation)
- · Taper threaded hubs with integral bushings

I BY elbows have:

- Maximum volume for bends within a compact overall size
- Screw on cover for ease of installation and removal
- · Over opening on an angle, permitting conductors to be pulled straight through either hub
- Taper threaded hubs and integral bushing for rigid threaded conduit

ET short radius tees have:

- · Compact size and small radius of bend for use in concealed, or open conduit
- · Particularly suited for use in shallow floors or partitions
- Taper threaded hubs and integral bushing for rigid threaded conduit

Certifications and Compliances:

• NFC:

LBH 10-20 -

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

Class III LBH 30-100

Class I, Division 1 & 2, Group D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

LBY -

Class I, Division 1 & 2, Groups C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

Class I, Division 1 & 2, Groups A, B, C, D Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

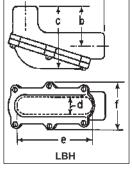
Standard Materials:

• LBH, LBY and ET - Feraloy® iron alloy

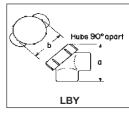
Standard Finishes:

 LBH, LBY and ET – electrogalvanized and aluminum acrylic paint

Dimensions In Inches:



LBH



LBY		
Size	а	b
1/2	29/16	2
3/4	213/16	21/4
1	33/32	21/2
11/4	33/4	215/16
11/2	41/4	33/8

Size	а	b	С	d	е	f
1/2-3/4	51/16	219/32	4	13/16	4	23/4
1-1/4	77/8	$3^{13}/_{32}$	51/4	13/4	7	4
11/2	1015/16	$4^{1}/_{2}$	$7^3/_{32}$	21/2	10	5
2	$10^{21}/_{32}$	$4^{25}/_{32}$	$7^3/_{32}$	21/2	10	5
2-1/2-3	15 ⁵ / ₈	$5^{1/2}$	91/2	3	15³/₄	55/8
3-1/2-4	239/16	611/16	113/4	4	24	71/8

*See Compliances for classification of each product.

Options:

Description Suffix LBH and LBY series - copper-free aluminum LBH and LBY series - Corro-free epoxy powder coat

SA

S752

Size Ranges:

- LBH bodies hub size 1/2" to 4"
- LBY elbows hub size ½" to 1½"

Ordering Information LBH



	Hub Size	Cat. #
	1/2	LBH10
	3/4	LBH20
	1	LBH30
١	11/4	LBH40
,	11/2	LBH50
	2	LBH60
	21/2	LBH70
	3	LBH80
	31/2	LBH90
	4	LBH100

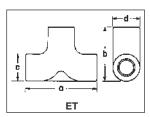
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萬	ŗ	

LBY

Hub Size	Cat. #
1/2	LBY15
3/4	LBY25
1	LBY35
11/4	LBY45
11/2	LBY55
'	



Hub Size	Cat. #
3/4-1/2-1/2‡ 3/4-3/4-3/4‡	ET218 ET228
1-3/4-3/4#	ET328
‡Largest hub is	s shown at



ET				
Size	а	b	С	d
3/4-1/2-1/2 3/4-3/4-3/4	4	2 ⁵ / ₈	1 1/ ₄ 1 1/ ₂	1 ½ 1½
1-3/4-3/4	4	3	11/2	13/4

Condulet® Elbows and Tees IEC Certifications

Zone 1 Zone 2 Zone 21 Zone 22

FE and FT Series

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Applications:

FE and FT conduit fittings are installed in hazardous areas to:

- Act as draw-in outlets especially for cables that are stiff due to large size or type of insulation
- Make 90° bends in conduit systems, allowing for a straight pull in either direction
- Provide access to wiring for maintenance and future system changes

Features:

- Maximum volume for bends within a compact overall size
- Large openings to facilitate cable pulling

Certifications and Compliances:

Type of Protection

• Ex d, DIP A21, IP67

Degree of Protection

• IP67

Gas Group

• IIB

Approvals
• Ex1108U

Standard Materials:

- Body Copper-free aluminum
- Cover Brass

Standard Finishes:

Natural

Options:

Description Suffix NPT & BSP thread sizes Consult Factory

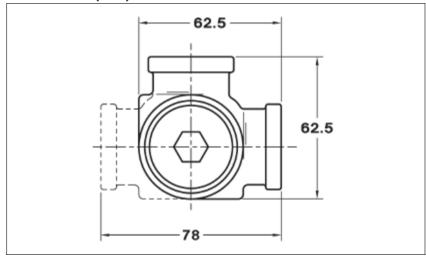




Ordering Information: Inspection Elbows and Tees Selection

Cat. #	Туре	Entry Size (metric)
FE1	Elbow	M20 (F)-M20 (F)
FE2	Elbow	M25 (F)-M25 (F)
FT1	Tee	M20 (F)-M20 (F)
FT2	Tee	M25 (F)-M25 (F)

Dimensions (mm)



Applications:

- STL thread lubricant is used between any screw thread and its tapped opening, on any rotating shaft – threaded or plain, and to inhibit corrosion on any metal-to-metal joint of apparatus and control enclosures.
- HTL high temperature lubricant is used on lighting fixture threaded joints and on threaded joints of the enclosures of any heatproducing apparatus or control.

Features:

STL thread lubricant is lithium based, antigalling and:

- Is especially effective between parts made of dissimilar metals
- Is effective and stable from -20°F to +300°F
- Maintains grounding continuity; should not be used on exposed current-carrying parts
- Has excellent adhesion qualities; a liberal application on threaded joints maintains raintightness and inhibits corrosion

HTL is a high temperature, anti-seize, conductive thread lubricant:

- Effective and stable from -70°F to +1800°F
- · Prevents seizure, galling, rust, galvanic action
- Maintains grounding continuity; should not be used on exposed current-carrying parts
- · Effective between parts made of dissimilar metals

Certifications and Compliances:

• Complies with NEC 2008, Article 300.6

STL Thread Lubricant





HTL High Temperature Thread Lubricant



Net Wt.	Cat. #
4 oz. (tube)	HTL4

MSDS Sheets are available at www.crouse-hinds.com

Cable Glands and Cable Accessories Hazardous and Non-hazardous

Description	Page No.	Description	Page No.
Application	see page 66	Cable Glands - Accessories	
Cable Glands - International Standards		A Series	see page 96
		B Series	see page 100
Quick Selection Guide	see pages 67-70	D Series	see page 101
Flameproof and Increased Safety		E Series	see page 102
ADE 1F	see page 71	Breathers and Drains	see page 103
ADE 4F	see page 72	Cable Tray Clamps	
ADE 6F	see page 73	-	
ADE 6FC	see page 74	Conduit	
ADE 1FC	see page 75		see page 104
Ex - e	see page 76	Grounding Conductor	
Ex - i	see page 77	TGC Series	see page 105
Trumpet	see page 78	Cable/Conduit Sealing Devices	
Enlargement and Multiple	see page 79	Thru-Wall Barrier®	
Industrial		TW Series	000 00000 100 100
ADE 4I	see page 80		see pages 106-107
Coble Glande Naut A	1	Link Seal – For Conduit	
Cable Glands - North American Standards		Environmental Seal	see pages 112-113
	000	Fire Seal	see pages 114-115
Quick Selection Guide	see pages 67-70		
Explosionproof			
Terminator™ II TMCX	see pages 81-82		
TMCX	see page 83		
ADE 6FC	see page 84		
ADE 1FC	see page 85		
CGBS	see page 86		
EBY	see page 86		
General Purpose			
TMC	see page 87		
TECK	see page 88		
CGB	see pages 89-90		
CGD	see page 91		
CGE	see page 92		
CGB1013	see page 93		
CGFP	see page 94		
NCG	see page 95		
NCGB	see page 95		

Application and Selection

Applications:

Cable glands and cord fittings:

- Provide means for passing a cord, cable (armored or unarmored) or flexible conduit into an enclosure, through a bulkhead or into a riaid conduit
- · Form a mechanical grip and water and/or oil-resistant seal for cord and unarmored or jacketed armored, round cables
- · Form a non-slip connection or termination for flexible cord, cable (armored or unarmored), or flexible conduit
- · Provide grounding continuity for cable armor and flexible conduit

Cable glands with sealing fitting or epoxy are installed to:

- · Provide means for passing armored, metal clad, jacketed or unjacketed and unarmored cables through a bulkhead or enclosure in hazardous areas. These fittings are suitable for use in Class I, Groups C, D locations only when Chico® A sealing compound or TSC epoxy (TMCX) is used to make the seal in the fittina*
- Form a mechanical grip and water and/or oil-resistant termination
- · Provide ground continuity of cable armor and flexible conduit

TMC (non-hazardous) and TMCX (hazardous) fittings are designed for use with Type MC jacketed steel or aluminum metal clad cables with interlocked or corrugated armor and Type TC tray cable (TMCX).

LCC cable tray conduit clamps are used for installation on cable tray side rails with inside flanges (requiring inside tray mounting) and outside flanges; LCCF clamps are for use exclusively on inside flanges. LCC/LCCF series cable tray conduit clamps are installed to:

- · Provide a means of clamping metal conduit (rigid steel or aluminum, IMC and EMT) to cable tray for the exit of power and/or control cables from tray
- · Provide a means to firmly bond exiting conduit to cable tray for best grounding continuity

TW Series THRU-WALL BARRIER® cable/conduit sealing devices are

- · Seal cables or conduits penetrating fire rated walls, ceilings, or
- · Restrict entrance of water and dust and contain treated air
- Provide a seal for cable/conduit penetrations through steel, masonry or concrete; to restrict the entrance of contaminants through cable/conduit penetrations into clean areas

TGC cable tray grounding conductor clamp provides a means for securely attaching a grounding conductor to cable tray to provide grounding continuity for the entire tray system. TGC cable tray grounding conductor clamps provide a reliable method for carrying ground fault current for equipment protection. TGC clamp may be installed on most types of cable trays - with inside or outside flanges.

Considerations for Selection:

- Selection of the proper cable gland involves consideration of the type of cable to be installed and the environment that will surround the cable after installation.
- · A proper matching of the cable and its gland is necessary to prevent physical damage to the cable when installed. Some types of cable glands depend on gripping methods (set screws, etc.) which may lead to damage of the cable outer covering. Eaton's Crouse-Hinds cable glands and cord fittings utilize compression of split lead or tapered neoprene bushings to provide high gripping strength for adequate cable support and strain relief without damage to the cable sheath.
- Compression of bushing provides a strong electrical bond that assures grounding continuity.
- Compression of a tapered neoprene bushing assures the watertight integrity of Eaton's Crouse-Hinds cable glands. Additional watertightness, to prevent water seepage into the fitting body, can be obtained by use of a potting head filled with a hot pouring compound.
- To meet National Electrical Code requirements for electrical installations in hazardous atmospheres, a sealing fitting may be required in conjunction with the cable or cord fitting.

*With specific cords and cables when installed in accordance with NEC/CEC requirements.

Global Cable Glands

Quick Selection Guide - International Standards

CABLE GLAND	ILLUSTRATION	CABLE TYPE	GLAND TYPE	STANDARD MATERIAL	CERTIFICATION	PROTECTION TYPE
ADE 1F (see page 71)		Non-armoured, armoured and tray cable (does not terminate the armour)	Non-armoured	Nickel-plated brass	EX IECEX C COUPLE CO- 18 Numer	Flameproof & Increased Safety
ADE 4F (see page 72)		SWA, SWB, STA, braided marine shipboard and lead sheathed (with addition of earthing washer)	Armoured	Nickel-plated brass	EX IECEX C-CAPIL CO-CAPIL (S) 14000 (S) 1500	Flameproof & Increased Safety
ADE 6F (see page 73)		SWA, SWB, STA and braided marine shipboard	Armoured	Nickel-plated brass	EN HECEN C CAPIL EN (S) 1 mm (S) 0	Flameproof & Increased Safety
ADE 6FC (see page 74)		SWA, SWB, STA, braided marine shipboard and lead sheathed (with addition of earthing washer)	Armoured barrier	Nickel-plated brass	EX IECEX C COMIL COM (S) 1000 (S) 0	Flameproof & Increased Safety
ADE 1FC (see page 75)		Non-armoured, armoured and tray cable (does not terminate the armour)	Non-armoured barrier	Nickel-plated brass	(S) IECEX C COPIL (C) (S) 1000 (S) (S) 10	Flameproof & Increased Safety

4F Global Cable Glands

Quick Selection Guide - International Standards

CABLE GLAND	ILLUSTRATION	CABLE TYPE	GLAND TYPE	STANDARD MATERIAL	CERTIFICATION	PROTECTION TYPE
Ex - e (see page 76)		Non- armoured	Non-armoured	Polyamide	€x lecex C€	Increased Safety
Ex - i (see page 77)		Non- armoured	Non-armoured	Polyamide	€x lecex (€	Increased Safety
Trumpet (see page 78)		Non- armoured	Non-armoured	Polyamide	€ (€	Increased Safety
Enlargement and Multiple (see page 79)		Non- armoured	Non-armoured	Polyamide	€x lecex C€	Increased Safety
ADE 4I (see page 80)		SWA, SWB, STA, braided marine shipboard and lead sheathed (with addition of earthing washer)	Armoured	Nickel-plated brass	(€	Industrial

Global Cable Glands 4F

Quick Selection Guide - North American Standards

CABLE GLAND	ILLUSTRATION	CABLE TYPE	GLAND TYPE	STANDARD MATERIAL	CERTIFICATION	PROTECTION TYPE
Terminator™ II TMCX X (see pages 81–82		Metal-clad, TECK (interlocked and continuously welded corrugated armoured), unarmoured, and tray cable	Armoured barrier, non- armoured barrier, and TECK armoured	Aluminum	(V) C (V) US LISTED	Explosionproof
TMCX (see page 83)		Metal-clad with interlocked or continuously welded corrugated, TECK armoured, non-armoured and tray cable	Armoured barrier and non-armoured barrier	Aluminum	(I) (II)	Explosionproof
ADE 1FC (see page 85)		Non-armoured, armoured and tray cable (does not terminate the armour)	Non-armoured barrier	Nickel-plated brass	© HECE. C € △ Loore. © No.co. √§	Flameproof & Increased Safety
ADE 6FC (see page 84)		SWA, SWB, STA, braided marine shipboard and lead sheathed (with addition of earthing washer)	Armoured barrier	Nickel-plated brass	E IECE. C (E (A) Crore. (E) (Some (S))	Flameproof & Increased Safety
CGBS (see page 86)		Non-armoured and tray cable	Portable cord connector	Body: steel Gland nut: aluminum	®	Explosionproof
EBY (see page 86)		Non-armoured	Portable cord connector	Aluminum	c (UL) US LISTED	Explosionproof
TMC (see page 87)		Metal-clad with interlocked or continuously welded corrugated, TECK armoured, non-armoured and tray cable	Armoured or non-armoured	Aluminum	c (UL) US LISTED	General Purpose
TECK (see page 88)		TECK armoured	Armoured	Aluminum	®	General Purpose
CGB (see pages 89–90)		Non-armoured and tray cable	Non-armoured	Body steel Form A-D steel Form E-F iron	c (UL) US LISTED	General Purpose

Quick Selection Guide - North American Standards

CABLE GLAND	ILLUSTRATION	CABLE TYPE	GLAND TYPE	STANDARD MATERIAL	CERTIFICATION	PROTECTION TYPE
CGD (see page 91)		Non-armoured and tray cable	Non-armoured	Body: iron Gland nut: steel	G (UL) US LESTED	General Purpose
CGE (see page 92)		Non-armoured and tray cable	Non-armoured	Body: iron Gland nut: steel	c (UL) US LESTED	General Purpose
CGB1013 (see page 93)		Non-armoured and tray cable	Portable cord connector	Body: steel Gland nut: aluminum	C (U) US LISTED	General Purpose
CGFP (see page 94)		Non-armoured and tray cable	Non-armoured	Form B-C: steel Form D-G: iron	c (UL) US LETED	General Purpose
NCG (see page 95)		Non-armoured and tray cable	Non-armoured	Polyamide	c (UL) US LESTED	General Purpose
NCGB (see page 95)	NCGS	Non-armoured and tray cable	Non-armoured	Thermoplastic polyester	c (U) us leted	General Purpose

4F

4F

International Standards -Flameproof and Increased Safety

ATEX
IECEx
cULus Listed for Class I, Zone 2
cULus Marine Listed for Class I, Zone 2

CEPEL GOST-R NEPSI NEMA 4X and IP68

Gland Type:

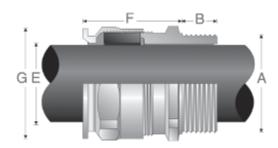
Non-armoured

Cable Type:

Non-armoured, armoured and tray cable (does not terminate the armour)

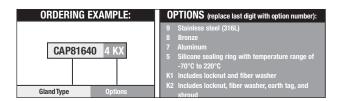
Certifications and Compliances:

- ATEX LCIE 97 ATEX 6008X Exd IIC/Exe II/Ex tD /Ex II 2 GD
- IECEx LCI 05.0004X
- cULus Listed for Class I Zone 2 AEx e II/Ex e II E310130
- cULus Marine Listed for Class I Zone 2 AEx e II/Ex e II E314047
- NEMA 4X and IP68
- CEPEL cepel-EX-558/05X
- GOST-R POCC FR.B02011
- NEPSI N° GYJ071336U & GYJ071337U



Features:

- Standard material is nickel-plated brass for superior corrosion resistance
- Provides a flameproof and weatherproof seal on the outer sheath of the cable
- Standard neoprene seal suitable for use in operating temperatures ATEX (-60°C to 100°C), IECEx and cULus (-40°C to 100°C)
- Available with optional silicone seal for extreme temperatures
- Available with metric or NPT threads
- See pages 96-103 for related accessories



SELECTION TABLE

	Entry Thread Size 'A'		Thread		cceptance	<u> </u>	Hexagon	Dimensions		
Gland	Metric	Metric	NPT		Length 'B' Metric	Outer S	Sheath'E'	Gland Length 'F'	Across	Across
Size	Size	Catalog #	Size	NPT Catalog #	(NPT)	Min	Max	(less entry)	Flats	Corners 'G'
4	M12	CAP816404	1/4"	CAP818404	15 (12.0)	4.0	8.0	20	-	16.5
4	M16	CAP816594	3/8"	CAP818594	15 (12.0)	4.0	8.5	20	_	20.9
5	M16	CAP816504	1/2"	CAP818694	15 (12.0)	6.0	12.0	22	_	20.9
4	M20	CAP816674	1/2"	CAP818674	15 (20.2)	4.0	8.5	20	_	26.4
5	M20	CAP816694	1/2"	CAP818694	15 (20.2)	6.0	12.0	22	_	26.4
6	M20	CAP816604	1/2"	CAP818604	15 (20.2)	8.5	16.0	25	_	26.4
5	M25	CAP816774	3/4"	CAP818774	15 (20.2)	6.0	12.0	22	_	33
6	M25	CAP816794	3/4"	CAP818794	15 (20.2)	8.5	16.0	25	_	33
7	M25	CAP816704	3/4"	CAP818704	15 (20.2)	12.0	21.0	27	_	33
7	M32	CAP816894	1"	CAP818894	15 (25.3)	12.0	21.0	27	_	39.6
8	M32	CAP816804	1"	CAP818804	15 (25.3)	16.0	27.5	34	_	45.1
8	M40	CAP816994	11/4"	CAP818994	15 (26.0)	16.0	27.5	34	_	48.4
9	M40	CAP816904	11/4"	CAP818904	15 (26.0)	21.0	34.0	36	_	52.8
9	M50	CAP817094	11/2"	CAP819094	15 (26.5)	21.0	34.0	36	_	60.5
10	M50	CAP817004	11/2"	CAP819004	15 (26.5)	27.0	41.0	39	_	60.5
11	M63	CAP817294	2"	CAP819294	17 (27.2)	33.0	48.0	41	_	73.7
12	M63	CAP817204	2"	CAP819204	17 (27.2)	40.0	56.0	43	_	79.2
12	M75	CAP817394	21/2"	CAP819494	18 (40.5)	40.0	56.0	43	_	88
13	M75	CAP817304	21/2"	CAP819404	18 (40.5)	47.0	65.0	49	_	93.5
14	M90	CAP817594	3"	CAP819594	22 (42.0)	54.0	74.0	56	_	104.5
15	M90	CAP817504	3"	CAP819504	22 (42.0)	63.0	78.0	61	_	121
16	M110	CAP817794	31/2"	CAP819604	22 (43.2)	72.0	92.0	62	_	132

International Standards - Flameproof and Increased Safety

ATEX IECEx cULus Listed for Class I, Zone 2 cULus Marine Listed for Class I, Zone 1 CEPEL GOST-R NEPSI NEMA 4X and IP68

4

Gland Type:

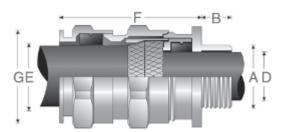
Armoured

Cable Type:

Steel wire armoured, steel wire braided, steel tape armoured, braided marine shipboard and lead sheathed (with addition of earthing washer)

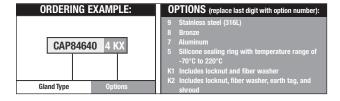
Certifications and Compliances:

- ATEX LCIE 97 ATEX 6008X Exd IIC/Exe II/Ex tD/Ex II 2 GD
- IECEx LCI 05.0004X
- cULus listed for Class I, Zone 2 AEx e II/Ex e II E310130
- cULus Marine listed for Class I, Zone 1 AEx e II/Ex e II E314047
- NEMA 4X and IP68
- CEPEL cepel-EX-559/05X
- GOST-R POCC FR.B02011
- NEPSI N° GYJ071336U & GYJ071337U



Features:

- Standard material is nickel-plated brass for superior corrosion resistance.
- Armour clamping and bonding with no reversible components for easy installation, minimizing error
- Provides flameproof seal on inner jacket and weatherproof seal on outer sheath of cable
- Optional earthing washer for use with lead sheathed cable (see page 97)
- Standard neoprene seal suitable for use in operating temperatures ATEX (-60°C to 100°C), IECEx and cULus (-40°C to 100°C)
- Available with optional silicone seal for extreme temperatures
- Available with metric or NPT threads
- See pages 96-103 for related accessories



SELECTION TABLE

		Entry Thre	ead Siz	e 'A'		С	able Ac	ceptanc	е				agon
					Thread Length 'B'	Inner S		Outer S			Gland Length	Dime	nsions Across
Gland	Metric	Metric	NPT		Metric	'C)'	'E	· ·	Armour	'F' (less	Across	Corners
Size	Size	Catalog #	Size	NPT Catalog #	(NPT)	Min	Max	Min	Max	(max)	entry)	Flats	'G'
5	M12	CAP846404	1/4"	CAP848404	15 (12.0)	4.0	8.0	6.0	12.0	0.9	36	_	20.9
5	M16	CAP846594	3/8"	CAP848594	15 (12.0)	4.0	8.5	6.0	12.0	0.9	36	_	20.9
6	M16	CAP846504	3/8"	CAP848504	15 (12.0)	6.0	12.0	8.5	16.0	1.25	42	-	26.4
5	M20	CAP846674	1/2"	CAP848674	15 (20.2)	4.0	8.5	6.0	12.0	0.9	36	-	26.4
6	M20	CAP846694	1/2"	CAP848694	15 (20.2)	6.0	12.0	8.5	16.0	1.25	42	-	26.4
7	M20	CAP846604	1/2"	CAP848604	15 (20.2)	8.5	16.0	12.0	21.0	1.25	46	-	33.0
6	M25	CAP846774	3/4"	CAP848774	15 (20.2)	6.0	12.0	8.5	16.0	1.25	42	_	33.0
7	M25	CAP846794	3/4"	CAP848794	15 (20.2)	8.5	16.0	12.0	21.0	1.25	46	_	33.0
8	M25	CAP846704	3/4"	CAP848704	15 (20.2)	12.0	20.5	16.0	27.5	1.6	56	-	45.1
8	M32	CAP846894	1"	CAP848894	15 (25.3)	12.0	21.0	16.0	27.5	1.6	56	ı	45.1
9	M32	CAP846804	1"	CAP848804	15 (25.3)	16.0	27.5	21.0	34.0	1.6	63	-	52.8
9	M40	CAP846994	11/4"	CAP848994	15 (26.0)	16.0	27.5	21.0	34.0	1.6	63	-	52.8
10	M40	CAP846904	11/4"	CAP848904	15 (26.0)	21.0	34.0	27.0	41.0	2.0	68	_	60.5
10	M50	CAP847094	11/2"	CAP849094	15 (26.5)	21.0	34.0	27.0	41.0	2.0	68	ı	60.5
11	M50	CAP847004	11/2"	CAP849004	15 (26.5)	27.0	41.0	33.0	48.0	2.5	74	-	70.4
12	M63	CAP847294	2"	CAP849294	17 (27.2)	27.0	41.0	33.0	48.0	2.5	77	-	79.2
13	M63	CAP847204	2"	CAP849204	17 (27.2)	33.0	48.0	47.0	56.0	2.5	85	1	93.5
13	M75	CAP847394	21/2"	CAP849494	18 (40.5)	40.0	56.0	47.0	65.0	2.5	85	-	93.5
14	M75	CAP847304	21/2"	CAP849404	18 (40.5)	47.0	65.0	54.0	74.0	2.5	92	-	104.5
15	M90	CAP847794	3"	CAP849594	22 (42.0)	54.0	74.0	63.0	83.0	3.15	104	-	121.0
16	M90	CAP847504	3"	CAP849504	22 (42.0)	63.0	82.0	72.0	93.0	3.15	108	-	132.0
16	M90	CAP847574	31/2"	CAP849604	N/A (43.2)	63.0	82.0	72.0*	93.0*	3.15	108	-	132.0
17	M110	CAP847794	4"	CAP849704	22 (44.5)	72.0	92.0	85.0	107.0	3.15	115	-	148.5

All dimensions in millimeters unless otherwise noted * CAP849604 "outer sheath" min: 85 max: 107.

4

ADE 6F

International Standards - Flameproof and Increased Safety

ATEX IECEx cULus Listed for Class I, Zone 2 cULus Marine Listed for Class I, Zone 2 CEPEL GOST-R NEPSI NEMA 4X and IP68

Gland Type:

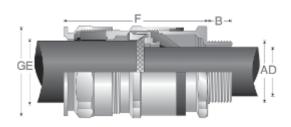
Armoured

Cable Type:

Steel wire armoured, steel wire braided, steel tape armoured and braided marine shipboard

Certifications and Compliances:

- ATEX LCIE 97 6008X Exd IIC / Exe II / Ex tD / Ex II 2GD
- IECEx LCI 05.0004X
- cULus Listed for Class I, Zone 2 AEx e II / Ex e II E310130
- cULus Marine Listed for Class I, Zone 2 AEx e II / Ex e II E314047
- NEMA 4X and IP68
- CEPEL
- GOST-R
- NEPSI



Features:

- Standard material is nickel-plated brass for superior corrosion resistance
- Armour clamping and bonding with no reversible components for easy installation, minimizing error
- · Provides fully inspectable inner seal after installation
- Flameproof diaphragm seal on inner jacket does not damage cables exhibiting "cold-flow"; weatherproof seal on outer sheath of cable
- · Deluge boot provides enhanced protection from water ingress
- Standard neoprene seal suitable for use in operating temperatures ATEX (-60°C to 100°C), IECEx and cULus (-40°C to 100°C)
- · Available with metric or NPT threads
- See pages 96-103 for related accessories



SELECTION TABLE

		Entry Thre	ad Size	'A'		Ca	able Ac	ceptan	се		<u>.</u>		agon
Ol I		B. B. a. a. a. a.	NET	NDT	Thread Length 'B'	In: Shea	ner th 'D'	Ou Shea			Gland Length		Across
Gland Size	Metric Size	Metric Catalog #	NPT Size	NPT Catalog #	Metric (NPT)	Min	Max	Min	Max	Armour (max)	'F' (less entry)	Across Flats	Corners 'G'
5	M16	CAP965594	3/8"	CAP967594	15 (12.0)	3.0	7.5	6.0	12.0	0.9	46.0	_	20.9
5	M20	CAP965674	1/2"	CAP967674	15 (20.2)	3.0	7.5	6.0	12.0	0.9	46.0	-	26.4
6	M20	CAP965694	1/2"	CAP967694	15 (20.2)	6.5	11.0	8.5	16.0	1.25	53.0	_	26.4
7	M20	CAP965604	1/2"	CAP967604	15 (20.2)	9.0	14.5	12.0	21.0	1.25	59.0	_	33.0
7	M25	CAP965794	3/4"	CAP967794	15 (20.2)	9.0	14.5	12.0	21.0	1.25	59.0	_	33.0
8	M25	CAP965704	3/4"	CAP967704	15 (20.2)	12.0	19.5	16.0	27.5	1.6	74.5	_	45.1
8	M32	CAP965894	1"	CAP967894	15 (25.3)	12.0	19.5	16.0	27.5	1.6	74.5	_	45.1
9	M32	CAP965804	1"	CAP967804	15 (25.3)	17.5	26.0	21.0	34.0	1.6	83.5	_	52.8
9	M40	CAP965994	11/4"	CAP967994	15 (26.0)	17.5	26.0	21.0	34.0	1.6	83.5	_	52.8
10	M40	CAP965904	11/4"	CAP967904	15 (26.0)	23.0	33.0	27.0	41.0	2.0	92.0	_	60.5
10	M50	CAP966094	11/2"	CAP968094	16 (26.5)	23.0	33.0	27.0	41.0	2.0	92.0	_	60.5
11	M50	CAP966004	2"	CAP968294	16 (27.2)	28.5	41.0	33.0	48.0	2.5	104.0	_	70.4

Larger sizes available in ADE 4F design, see page 72. All dimensions in millimeters unless otherwise noted.

Gland Type:

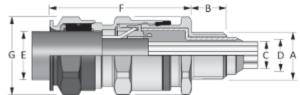
Armoured barrier

Cable Type:

Steel wire armoured, steel wire braided, steel tape armoured, braided marine shipboard and lead sheathed (with addition of earthing washer)

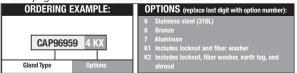
Certifications and Compliances:

- ATEX LCIE 97 ATEX 6008X Exd IIC/Exe II/Ex tD/Ex II 2 GD
- IECEx LCI 05.0004X
- cULus Listed for Class I. Zone 2 AEx de II/Ex de II
- cULus Marine Listed for Class I, Division 1, Groups A, B, C, D
- NEMA 4X and IP68
- CEPEL-EX-558/05X
- GOST-R POCC FR Bo2011
- NEPSI N° GYJ071336U & GYJ071337U
- ABS approbation: n° 10-HS 577243-PDA / P1836754-X
- DNV N° E-10892
- Lloyds



Features

- Standard material is nickel-plated brass for superior corrosion
- · Armour clamping with no reversible components for easy installation, minimizing error
- Provides explosionproof compound seal (denoted by red back nut) on conductors and weatherproof seal on outer sheath of cable
- Deluge boot provides enhanced protection from water ingress
- Standard neoprene seal suitable for use in operating temperatures -60°C (-25°C UL) to 80°C
- Available with metric or NPT threads
- See pages 96-103 for related accessories



SELECTION TABLE

		Entry Threa	ad Size	'A'			Cable	Accept	ance					agon nsions
							ner Shea		Ou Shea	ter				
					Thread Length	Max	Max	s	Snea	tn E		Gland		
					'B'	Over Cores	Inner Sheath	Max No. of				Length		Across
Gland Size	Metric Size	Metric Catalog #	NPT Size	NPT Catalog #	Metric (NPT)	'C'	'D'	Cores	Min	Max	Armour (max)	'F' (less entry)	Across Flats	Corners 'G'
5	M16	CAP969594	3/8"	CAP974594	15 (12.0)	6.5	7.5	6.0	6.0	12.0	0.9	46.0	_	20.9
5	M20	CAP969674	1/2"	CAP971674	15 (20.2)	6.5	7.5	6.0	6.0	12.0	0.9	46.0	_	26.4
6	M20	CAP969694	1/2"	CAP971694	15 (20.2)	9.5	11.0	6.0	8.5	16.0	1.25	53.0	_	26.4
7	M20	CAP969604	1/2"	CAP971604	15 (20.2)	12.0	14.5	10.0	12.0	21.0	1.25	59.0	_	33.0
7	M25	CAP969794	3/4"	CAP971794	15 (20.5)	12.0	14.5	10.0	12.0	21.0	1.25	59.0	_	33.0
8	M25	CAP969704	3/4"	CAP971704	15 (20.5)	17.0	19.5	21.0	16.0	27.5	1.6	74.5	_	45.1
8	M32	CAP969894	1"	CAP971894	15 (25.3)	17.0	19.5	21.0	16.0	27.5	1.6	74.5	_	45.1
9	M32	CAP969804	1"	CAP971804	15 (25.3)	23.0	28.0	42.0	21.0	34.0	1.6	83.5	_	52.8
9	M40	CAP969994	11/4"	CAP971994	15 (26.0)	23.0	28.0	42.0	21.0	34.0	1.6	83.5	_	52.8
10	M40	CAP969904	11/4"	CAP971904	15 (26.0)	29.0	33.0	60.0	27.0	41.0	2.0	92.0	_	60.5
10	M50	CAP970094	11/2"	CAP972094	16 (26.5)	29.0	33.0	60.0	27.0	41.0	2.0	92.0	_	60.5
11	M50	CAP970004	11/2"	CAP972004	16 (27.2)	36.5	41.0	80.0	33.0	48.0	2.5	104.0	_	70.4
12	M63	CAP970294	2"	CAP972274	17 (29.2)	43.0	48.0	100.0	40.0	56.0	2.5	108.0	_	79.2
13	M63	CAP970204	2"	CAP972204	17 (29.2)	50.0	56.0	100.0	46.0	65.0	2.5	118.0	_	93.5
13	M75	CAP970394	21/2"	CAP972494	18 (42.5)	50.0	56.0	100.0	46.0	65.0	2.5	118.0	_	93.5
14	M75	CAP970304	21/2"	CAP972404	18 (42.5)	59.0	65.0	120.0	54.0	74.0	2.5	124.0	_	104.5
14	_	-	3"	CAP972574	(44)	59.0	65.0	120.0	54.0	74.0	2.5	124.0	_	104.5
15	M90	CAP970594	3"	CAP972594	22 (44.0)	66.0	73.0	140.0	63.0	83.0	3.15	133.0	_	121.0
15	_	-	31/2"	CAP972694	(45.2)	66.0	73.0	140.0	63.0	83.0	3.15	133.0	_	121.0
16	M90	CAP970504	3"	CAP972504	22 (44.0)	75.0	82.0	140.0	72.0	93.0	3.15	137.0	_	132.0
16	_	-	31/2"	CAP972604	(45.2)	75.0	82.0**	140.0	72.0	93.0	3.15	137.0	_	132.0
17	M110	CAP970794	4"	CAP972704	22 (46.5)	85.0	92.0**	200.0	85.0	107.0	3.15	142.0	_	148.5

All dimensions in millimeters unless otherwise noted.
*Aluminum not currently available with UL marine certification.

^{**}Contact Customer Service or your field sales representative for amended UL marine range.

4

International Standards -Flameproof and Increased Safety

ATEX **IECE**x cULus Listed for Class I. Zone 2 UL Marine Listed for Class I, Div. 2

CEPEL GOST-R NEMA 4X and IP68

Gland Type:

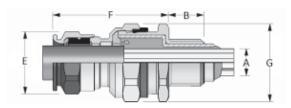
Non-armoured barrier

Cable Type:

Non-armoured, armoured and tray cable (does not terminate the

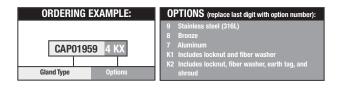
Certifications and Compliances:

- LCIE 97 ATEX 6008X II GD Exd IIC/Exe II/Ex tD
- IECEx LCI 05.0004X Ex c e IIC/Ex c e II/Ex tD
- cULus Listed for Class I, Zone 2 AEx de II/Ex de II
- UL Marine Listed for Class I, Division 2, Groups A, B, C, D
- NEMA 4X and IP68
- CEPEL EX-558/05X
- GOST-R POCC FR.B03126
- NEPSI N° GYJ071336U & GYJ071337U
- DNV N° E-10892
- ABS approbation: n° 10-HS 577243-PDA / P1836754-X
- Lloyds



Features:

- Standard material is nickel-plated brass for superior corrosion
- Provides a flameproof and weatherproof seal on outer sheath of
- Provides explosionproof compound seal (denoted by red back nut)
- Deluge boot provides enhanced protection from water ingress
- Standard neoprene seal suitable for use in operating temperatures -60°C (-25°C UL) to 80°C
- · Available with metric or NPT threads
- See pages 96-103 for related accessories



SELECTION TABLE

		Entry Thre	ad Size '	A'	Thread	Cable Ac	ceptance		0 1 1		exagon
Gland	Motrio	Metric Metric Size Catalog #		NPT	Length 'B' Metric	Outer SI		Max No.	Gland Length 'F'	Across	ensions Across
Size			NPT Size	Catalog #	(NPT)	Min	Max	Cores	(less entry)	Flats	Corners 'G'
4	M16	CAP019594	3/8"	CAP011594	15 (12.0)	4.0	7.5	6.0	46.0	_	20.9
4	M20	CAP019674	1/2"	CAP011674	15 (22.2)	4.0	7.5	6.0	46.0	_	26.4
5	M20	CAP019694	1/2"	CAP011694	15 (22.2)	6.5	11.0	6.0	53.0	-	26.4
6	M20	CAP019604	1/2"	CAP011604	15 (22.2)	9.0	14.5	10.0	59.0	_	33.0
6	M25	CAP019794	3/4"	CAP011794	15 (22.5)	9.0	14.5	10.0	59.0	_	33.0
7	M25	CAP019704	3/4"	CAP011704	15 (22.5)	12.0	19.5	21.0	74.5	-	45.1
7	M32	CAP019894	1"	CAP011894	15 (27.3)	12.0	19.5	21.0	74.5	_	45.1
8	M32	CAP019804	1"	CAP011804	15 (27.3)	17.5	26.0	42.0	83.5	_	52.8
8	M40	CAP019994	11/4"	CAP011994	15 (28.0)	17.5	26.0	42.0	83.5	_	52.8
9	M40	CAP019904	11/4"	CAP011904	15 (28.0)	23.0	33.0	60.0	92.0	_	60.5
9	M50	CAP019094	11/2"	CAP011094	16 (28.5)	23.0	33.0	60.0	92.0	_	60.5
10	M50	CAP019004	2"	CAP011004	16 (29.2)	28.5	41.0	80.0	104.0	_	70.4
10	M63	CAP019204	-	-	16	28.5	41.0	80.0	_	_	73.7
11	M63	CAP019294	2"	CAP011294	17 (29.2)	43.0	48.0	100.0	98.0	-	70.4
12	M63	CAP019274	2"	CAP011204	17 (29.2)	50.0	56.0	100.0	103.0	_	79.2
12	_	_	21/2"	CAP011494	42.5	50.0	56.0	100.0	103.0	-	79.2
13	M75	CAP019304	21/2"	CAP011404	18 (42.5)	59.0	65.0	120.0	111.0	-	93.5
13	_	_	3"	CAP012504	44	59.0	65.0	120.0	111.0	_	93.5
14	M90	CAP010594	3"	CAP012574	22 (44.0)	66.0	73.0	140.0	120.0	-	104.5
14	-	_	31/2"	CAP012604	45.2	66.0	73.0	140.0	120.0	ı	104.5
15	M90	CAP010504	3"	CAP012594	22 (44.0)	75.0	82.0	140.0	125.0	-	121.0
15	_	_	31/2"	CAP012694	45.2	75.0	82.0**	140.0	125.0	-	121.0
16	M110	CAP010794	4"	CAP012704	22 (46.5)	85.0	92.0**	200.0	128.0	_	132.0

All dimensions in millimeters unless otherwise noted.

^{*}Aluminum not currently available with UL marine certification.

**Contact Customer Service or your field sales representative for amended UL marine range.

Sizes M12-M16: PTB 99 ATEX

IP66

3101 X

Sizes M20-M63: PTB 99 ATEX

3128 X **IECEx**

Gland Type:

Non-armoured

Cable Type:

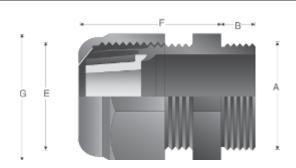
Non-armoured

Certifications and Compliances:

International Standards -

Flameproof and Increased Safety

- Sizes M12-M16: PTB 99 ATEX 3101 X Sizes M20-M63: PTB 99 ATEX 3128 X Ex II 2 G Ex e II/Ex II 2 D Ex tD A21
- IECEx PTB 05.0004X
- IP66



Features:

- Standard material is high-impact resistant polyamide
- · Forms weatherproof seal on outer sheath of cable
- Standard silicone seal suitable for use in operating temperatures -55° to 70°C (M12 and M16 for use in operating temperatures
- Available with optional silicone seal for extreme temperatures
- Available with metric threads
- See page 101 for related accessories

SELECTION TABLE - SHORT THREAD

	Entry	/ Thread Size 'A'	Thread	Cable A	cceptance	Gland	Hexag	on Dimensions
			Length 'B'	Outer S	heath 'E'	Length 'F'		
Gland Size	Metric Size	Metric Catalog #	Metric	Min	Max	(less entry)	Across Flats	Across Corners 'G'
12	M12	GHG 960 1955 R 0001	8.0	4.0	7.0	19.3	15.0	16.5
16	M16	GHG 960 1955 R 0002	8.0	5.5	10.0	23.0	20.0	22.0
20	M20	GHG 960 1955 R 0003	8.0	5.5	13.0	25.0	24.0	26.4
25	M25	GHG 960 1955 R 0004	8.0	8.0	17.0	29.5	29.0	31.9
32	M32	GHG 960 1955 R 0005	10.0	12.0	21.0	35.5	36.0	39.6

SELECTION TABLE - LONG THREAD

	Entr	y Thread Size 'A'	Thomas	Cable A	cceptance	Gland	Hexag	on Dimensions
			Thread Length 'B'	Outer S	heath 'E'	Length 'F'		
Gland Size	Metric Size	Metric Catalog #	Metric	Min	Max	(less entry)	Across Flats	Across Corners 'G'
12	M12	GHG 960 1955 R 0021	8.0	4.0	7.0	19.3	15.0	16.5
16	M16	GHG 960 1955 R 0022	8.0	5.5	10.0	23.0	20.0	22.0
20	M20	GHG 960 1955 R 0023	8.0	5.5	13.0	25.0	24.0	26.4
25	M25	GHG 960 1955 R 0024	8.0	8.0	27.0	29.5	29.0	31.9
32	M32	GHG 960 1955 R 0025	10.0	12.0	21.0	35.5	36.0	39.6
40	M40	GHG 960 1955 R 0026	15.0	17.0	28.0	39.5	46.0	50.6
50	M50	GHG 960 1955 R 0027	16.0	22.0	35.0	44.0	55.0	60.5
63	M63	GHG 960 1955 R 0028	16.0	27.0	48.0	47.0	68.0	74.8

4F

International Standards -Flameproof and Increased Safety Sizes M12-M16: PTB 99 ATEX 3101 X

Sizes M20-M63: PTB 99 ATEX

3128 X **IECE**x

Gland Type:

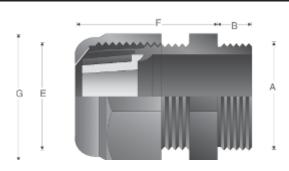
Non-armoured

Cable Type:

Non-armoured

Certifications and Compliances:

- Sizes M12-M16: PTB 99 ATEX 3101 X Sizes M20-M63: PTB 99 ATEX 3128 X Ex II 2 G Ex e II/Ex II 2 D Ex tD A21
- IECEx PTB 05.0004X
- IP66



Features:

- Standard material is high-impact resistant polyamide (gland nut is blue for intrinsically safe circuits)
- Forms weatherproof seal on outer sheath of cable
- Standard silicone seal suitable for use in operating temperatures -55° to 70°C (M12 and M16 for use in operating temperatures -20° to 70°C)
- · Available with metric threads
- See page 101 for related accessories

SELECTION TABLE - SHORT THREAD

	Entr	y Thread Size 'A'	Thread	Cable Ad	cceptance	Gland	Hexag	on Dimensions
Gland Size	Metric Size	Metric Catalog #	Length 'B' Metric	Outer S Min	heath 'E' Max	Length 'F' (less entry)	Across Flats	Across Corners 'G'
12	M12	GHG 960 1955 R 0101	8.0	4.0	7.0	19.3	15.0	16.5
16	M16	GHG 960 1955 R 0102	8.0	5.5	10.0	23.0	20.0	22.0
20	M20	GHG 960 1955 R 0103	8.0	5.5	13.0	25.0	24.0	26.4
25	M25	GHG 960 1955 R 0104	8.0	8.0	17.0	29.5	29.0	31.9
32	M32	GHG 960 1955 R 0105	10.0	12.0	21.0	35.5	36.0	39.6

SELECTION TABLE - LONG THREAD

	Entry	Thread Size 'A'	Thread		cceptance	Gland	Hexag	on Dimensions
			Length 'B' Metric		heath 'E'	Length 'F' (less entry)	Across Flats	Across Corners 'G'
Gland Size	Metric Size	Metric Catalog #	Metric	Min	Max	(less entry)	710100011010	7101000 00111010 0
12	M12	GHG 960 1955 R 0121	12.0	4.0	7.0	19.3	15.0	16.5
16	M16	GHG 960 1955 R 0122	12.0	5.5	10.0	23.0	20.0	22.0
20	M20	GHG 960 1955 R 0123	13.0	5.5	13.0	25.0	24.0	26.4
25	M25	GHG 960 1955 R 0124	13.0	8.0	17.0	29.5	29.0	31.9
32	M32	GHG 960 1955 R 0125	15.0	12.0	21.0	35.5	36.0	39.6
40	M40	GHG 960 1955 R 0126	15.0	17.0	28.0	39.5	46.0	50.6
50	M50	GHG 960 1955 R 0127	16.0	22.0	35.0	44.0	55.0	60.5
63	M63	GHG 960 1955 R 0128	16.0	27.0	48.0	47.0	68.0	74.8

Gland Type:

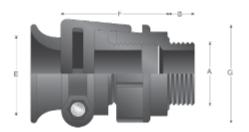
Non-armoured

Cable Type:

Non-armoured

Certifications and Compliances:

- ATEX PTB 00ATEX3121X Ex II 2 G Ex e II/Ex II 2 D Ex tD A21
- IP66



Features:

- Standard material is high-impact resistant polyamide
- Forms weatherproof seal on outer sheath of cable
- Flared rear seal provides protection for cable
- Standard neoprene seal suitable for use in operating temperatures -40° to 85°C
- Available with metric threads
- See page 101 for related accessories

SELECTION TABLE

	Entry	y Thread Size 'A'		Cable Ad	ceptance	Gland	Hexagon I	Dimensions
Gland	Metric	Metric	Thread Length	Outer S	heath 'E'	Length 'F'	Across	Across
Size	Size	Catalog #	'B' Metric	Min	Max	(less entry)	Flats	Corners 'G'
20	M20	GHG 960 1949 R0111	15.0	8.0	13.0	49.0	26.0	28.6
25	M25	GHG 960 1949 R0112	15.0	11.0	16.0	50.0	32.0	35.2
32	M32	GHG 960 1949 R0113	15.0	15.0	20.0	65.0	41.0	45.1
40	M40	GHG 960 1949 R0114	15.0	19.0	27.0	71.0	50.0	55.0
50	M50	GHG 960 1949 R0115	16.0	26.0	34.0	79.0	60.0	66.0
60	M60	GHG 960 1949 R0116	16.0	35.0	46.0	89.0	75.0	82.5

4F

4F

IP66

Enlargement and Multiple

International Standards - Flameproof and Increased Safety

Sizes M16: PTB 99 ATEX 3101 X Sizes M20-M63: PTB 99 ATEX 3128 X IECEx

Gland Type:

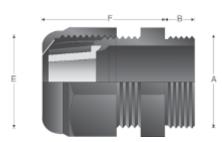
Non-armoured

Cable Type:

Non-armoured

Certifications and Compliances:

- Sizes M16: PTB 99 ATEX 3101 X
 Sizes M20-M63: PTB 99 ATEX 3128 X
 Ex II 2 G Ex e II/Ex II 2 D Ex tD A21
- IECEx PTB 05.0004X
- IP66



Features:

- Standard material is high-impact resistant polyamide
- Forms weatherproof seal on outer sheath of cable
- Provides reduced entry threads for larger gland size
- Standard silicone seal suitable for use in operating temperatures -55° to 70°C (M16 for use in operating temperatures -20° to 70°C)
- Available with metric threads
- See page 101 for related accessories

SELECTION TABLE - ENLARGEMENT

	Entry	Thread Size 'A'	Thread	Cable Ac	ceptance	Gland	Hexagon Di	imensions
Gland	Metric			Outer S	heath 'E'	Length 'F'	Across	Across
Size	Size	Catalog #	Metric	Min	Max	(less entry)	Flats	Corners 'G'
16/20	M16	GHG 960 1956 R0002	12.0	5.5	13.0	25.0	24.0	26.4
20/25	M20	GHG 960 1956 R0003	13.0	8.0	17.0	29.5	29.0	31.9
25/32	M25	GHG 960 1956 R0004	13.0	12.0	21.0	35.5	36.0	39.6
32/40	M32	GHG 960 1956 R0005	15.0	16.0	28.0	39.5	46.0	50.6
40/50	M40	GHG 960 1956 R0006	15.0	21.0	35.0	44.0	55.0	60.5
50/63	M50	GHG 960 1956 R0007	16.0	27.0	48.0	47.0	68.0	74.8

SELECTION TABLE - MULTIPLE

		En	try Thread Size 'A'	Thread		ceptance	Maximum	Gland	Hexagon D	imensions
	Gland	Metric		Length 'B'	Outer SI	heath 'E'	Number of	Length 'F'	Across	Across
	Size	Size	Metric Catalog #	Metric	Min Max		Conductors	(less entry)	Flats	Corners 'G'
	25	M25	GHG 960 1955 R0054	8.0	4.5	7.0	2	29.5	36.0	39.6
Г	32	M32	GHG 960 1955 R0055	10.0	4.5	7.0	4	39.5	46.0	50.6

International Standards -Industrial

Gland Type:

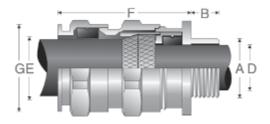
Armoured

Cable Type:

Steel wire armoured, steel wire braided, steel tape armoured, braided marine shipboard lead sheathed (with addition of earthing washer) and tray cable

Certifications and Compliances:

NEMA 4X and IP68



Features:

- Standard material is nickel-plated brass for superior corrosion resistance
- Armour clamping and bonding with no reversible components for easy installation, minimizing error
- Provides seal on inner jacket and weatherproof seal on outer sheath of the cable
- An optional earthing washer for use with lead sheathed cable (see page 97)
- Standard neoprene seal suitable for use in operating temperatures of -60°C to 100°C
- Available with optional silicone seal for extreme temperatures
- Available with metric or NPT threads
- See pages 96-103 for related accessories



SELECTION TABLE

		Entry Threa	d Size	'A'	Thread	С	able Ac	ceptano	e		Gland		agon nsions
Gland	Metric	Metric	NPT	NPT "	Length 'B' Metric)'	Outer 9	.	Armour	Length 'F' (less	Across	Across Corners
Size	Size	Catalog #	Size	Catalog #	(NPT)	Min	Max	Min	Max	(max)	entry)	Flats	'G'
5	M12	CAP946404	1/4"	CAP948404	15 (12.0)	4.0	8.0	6.0	12.0	0.9	36.0	-	20.9
5	M16	CAP946594	3/8"	CAP948594	15 (12.0)	4.0	8.5	6.0	12.0	0.9	36.0	-	20.9
6	M16	CAP946504	3/8"	CAP948504	15 (12.0)	6.0	12.0	8.5	16.0	1.25	42.0	-	26.4
5	M20	CAP946674	1/2"	CAP948674	15 (20.2)	4.0	8.5	6.0	12.0	0.9	36.0	_	26.4
6	M20	CAP946694	1/2"	CAP948694	15 (20.2)	6.0	12.0	8.5	16.0	1.25	42.0	-	26.4
7	M20	CAP946604	1/2"	CAP948604	15 (20.2)	8.5	16.0	12.0	21.0	1.25	46.0	_	33.0
6	M25	CAP946774	3/4"	CAP948774	15 (20.2)	6.0	12.0	8.5	16.0	1.25	42.0	_	33.0
7	M25	CAP946794	3/4"	CAP948795	15 (20.2)	8.5	16.0	12.0	21.0	1.25	46.0	_	33.0
8	M25	CAP946704	3/4"	CAP948704	15 (20.2)	12.0	20.5	16.0	27.5	1.6	56.0	_	45.1
8	M32	CAP946894	1"	CAP948894	15 (25.3)	12.0	21.0	16.0	27.5	1.6	56.0	-	45.1
9	M32	CAP946804	1"	CAP948804	15 (25.3)	16.0	27.5	21.0	34.0	1.6	63.0	-	52.8
9	M40	CAP946994	11/4"	CAP948994	15 (26.0)	16.0	27.5	21.0	34.0	1.6	63.0	-	52.8
10	M40	CAP946904	11/4"	CAP948904	15 (26.0)	21.0	34.0	27.0	41.0	2.0	68.0	-	60.5
10	M50	CAP947094	11/2"	CAP949904	16 (26.5)	21.0	34.0	27.0	41.0	2.0	68.0	-	60.5
11	M50	CAP947004	11/2"	CAP949004	16 (26.5)	27.0	41.0	33.0	48.0	2.5	74.0	_	70.4
12	M63	CAP947294	2"	CAP949294	17 (27.2)	27.0	41.0	33.0	48.0	2.5	77.0	_	79.2
13	M63	CAP947204	2"	CAP949204	17 (27.2)	33.0	48.0	40.0	56.0	2.5	85.0	-	93.5
13	M75	CAP947394	21/2"	CAP949949	18 (40.5)	40.0	56.0	47.0	65.0	2.5	85.0	-	93.5
14	M75	CAP947304	21/2"	CAP949404	18 (40.5)	47.0	65.0	54.0	74.0	2.5	92.0	-	104.5
15	M90	CAP947594	3"	CAP949564	22 (42.0)	54.0	74.0	63.0	83.0	3.15	104.0	-	121.0
16	M90	CAP947504	3"	CAP949504	22 (42.0)	63.0	82.0	72.0	93.0	3.15	108.0	-	132.0
16	_	-	31/2"	CAP949604	- (43.2)	63.0	82.0	72.0	93.0	3.15	108.0	-	132.0
17	M110	CAP947794	4"	CAP949704	22 (44.5)	72.0	92.0	85.0	107.0	3.15	115.0	-	148.5

Terminator™ II TMCX

North American Standards - Explosionproof

UL/cULus Listed CI. I, Div. 1, Groups A, B, C, D CI. II, Groups E, F, G CI. III

Gland Type:

Armoured barrier, TECK armoured, and non-armoured barrier

Cable Type:

Metal-clad and TECK (interlocked and continuously welded corrugated armoured), unarmoured, and tray cable

Certifications and Compliances:

- Class I, Division 1, Groups A, B, C, D
- Class II, Groups E, F, G
- Class III
- NEMA 6P
- UL/cULus Listed File No. E122485
- IECEx/ATEX (Pending)

Features:

- Designed to minimize the opportunity for incorrect assembly
- Simple selection process and field preparation aids to ensure the right gland is selected every time
- Full coverage of all popular cables and hub sizes, ensuring a perfect seal in all instances
- Use of nickel-plated brass and stainless steel to increase corrosion resistance and maintain integrity in the harshest environments
- Chico® LiquidSeal, an innovative liquid compound with fast gel and cure times, reduces waiting times
- Complete with integral dam to facilitate liquid pour
- Integral union design reduces the number of times the gland has to be assembled and disassembled during installation

- Mating components have generous lead-ins to ensure that assembly is as trouble-free as possible, even with the heaviest cables
- Use of neoprene seal allows use in temperatures from -40°C to +60°C; for specific temperature information, please contact your local sales representative

NEMA 6P

IECEx/ATEX (Pending)

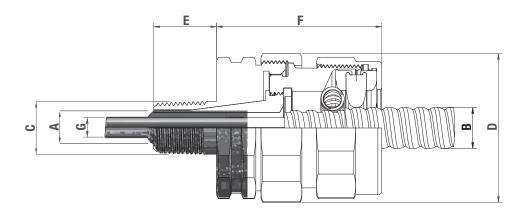
- Metric size threads allow interfacing to European machinery
- Wide range of global certifications and approvals
- See page 102 for related accessories



SELECTION TABLE

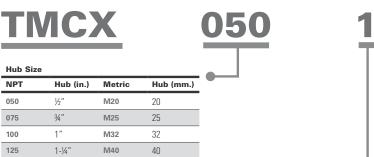
				Over	'A' Armo	our O.D.	'B' Cabl	e O.D.†		Thread	
Entry Thread 'C'	NPT Catalog #	Entry Thread 'C' (Metric Option)	Metric Catalog #	Conductors O.D. Max. Inches 'G'	Min.	Max.	Min.	Max.	Across Corners 'D'	Length NPT 'E' (Metric mm.)	Length 'F'
1/2"	TMCX050 1	M20	TMCXM20 1	0.480	0.40 (10.16)	0.86 (21.84)	0.49 (12.45)	0.90 (22.86)	1.75 (44.45)	1.00 (25.40)	3.05 (77.47)
1/2"	TMCX050 2	M20	TMCXM20 2	0.480	0.56 (14.22)	1.14 (28.96)	0.65 (16.51)	1.18 (29.97)	2.25 (57.15)	1.00 (25.40)	3.18 (80.77)
3/4"	TMCX075 1	M25	TMCXM25 1	0.713	0.40 (10.16)	0.86 (21.84)	0.49 (12.45)	0.90 (22.86)	1.75 (44.45)	1.00 (25.40)	3.05 (77.47)
3/4"	TMCX075 2	M25	TMCXM25 2	0.713	0.56 (14.22)	1.14 (28.96)	0.65 (16.51)	1.18 (29.97)	2.25 (57.15)	1.00 (25.40)	3.18 (80.77)
1"	TMCX100 1	M32	TMCXM32 1	0.939	0.56 (14.22)	1.14 (28.96)	0.65 (16.51)	1.18 (29.97)	2.25 (57.15)	1.08 (27.40)	3.18 (80.77)
1"	TMCX100 2	M32	TMCXM32 2	0.939	0.78 (19.81)	1.35 (34.29)	0.87 (22.10)	1.39 (35.31)	2.56 (65.02)	1.08 (27.40)	3.30 (83.82)
11/4"	TMCX125 1	M40	TMCXM40 1	1.172	0.78 (19.81)	1.35 (34.29)	0.87 (22.10)	1.39 (35.31)	2.56 (65.02)	1.08 (27.40)	3.30 (83.82)

All dimensions in inches; metric millimeters shown in parenthesis. Sizes 1½" and above will be available soon. †When making your cable gland selection based on Cable O.D., be sure to also observe the Over Conductors O.D. dimension.



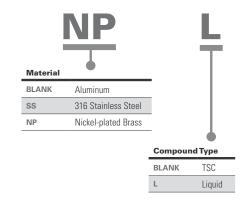
North American Standards - Explosionproof

Catalog Numbering System:



Cabla	Sealing	Dames
Capie	Seaming	nanue

Hub Size Code	Threa	d	Sealing Range Code	Standard Cable Sealing Range
050	1/2"	NPT	1	0.49" - 0.90"
000	72	INPT	2	0.65" - 1.18"
075	3/4"	NIDT	1	0.49" - 0.90"
075	%4	NPT	2	0.65" - 1.18"
100	1"	NPT	1	0.65" - 1.18"
100	I	NPI	2	0.87" - 1.39"
125	1-1/4"	NPT	1	0.87" - 1.39"
M20	M20	ISO.	1	12.4 mm - 22.8 mm
IVIZU	IVIZU	150	2	16.5 mm - 29.9 mm
MOE	MOE	100	1	12.4 mm - 22.8 mm
M25	M25	ISO	2	16.5 mm - 29.9 mm
Maa	Maa	ISO	1	16.5 mm - 29.9 mm
M32	M32	190	2	22.0 mm - 35.3 mm
M40	M40	ISO	1	22.0 mm - 35.3 mm



North American Standards -Explosionproof

Groups A, B, C, D Class II; Class III

UL Listed

Gland Type:

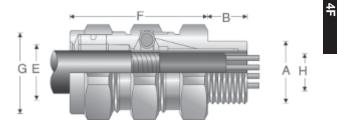
Armoured barrier, TECK armoured and non-armoured barrier

Cable Type:

Metal-clad (interlocked or continuously welded corrugated armoured), non-armoured and tray cable

Certifications and Compliances:

- UL Listed, CSA Certified Class I, Div. 1, Groups, A, B, C, D; Class II; Class III - UL File E122485, CSA File LR13046
- NEMA 4 and IP56 rated
- Wet locations



Features:

- Standard material is aluminum
- Stainless steel copper-plated spring provides grounding continuity of cable armour (MC cable only)
- Provides explosionproof compound seal on conductors and watertight seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 60°C
- Cold Shrink™ Kit is available for extra protection in aggressive environments (see page 102)
- Available with NPT threads
- See page 102 for related accessories



SELECTION TABLE

Entry	/ Thread Size 'A'			Cable Acceptance		е		Hexagor	Dimensions
NPT	NPT	Thread Length	Armour F	Range 'H'	Outer	Sheath 'E'	Gland Length	Across	Across
Size	Catalog #	'B' NPT	Min	Max	Min	Max	'F' (less entry)		Corners 'G'
1/2"	TMCX165	0.750	0.440	0.650	0.490	0.781	2.625	1.250	1.375
3/4"	TMCX285	0.781	0.600	0.850	0.650	1.000	2.875	1.500	1.625
1"	TMCX3112	0.938	0.800	1.120	0.850	1.313	3.125	1.875	2.000
11/4"	TMCX4140	0.969	1.100	1.400	1.150	1.625	3.125	2.250	2.438
11/2"	TMCX5161	0.969	1.330	1.610	1.380	1.781	3.375	2.500	2.750
2"	TMCX6206	1.000	1.570	2.060	1.630	2.313	5.313	3.250	3.500
21/2"	TMCX7247	1.438	1.930	2.470	1.990	2.719	6.063	3.750	4.000
3"	TMCX8302	1.438	2.450	3.020	2.525	3.281	6.063	4.500	4.875
31/2"	TMCX9352	1.625	2.950	3.520	3.025	3.781	7.750	5.000	5.375
4"	TMCX10402	1.625	3.500	4.020	3.585	4.281	8.313	5.500	5.875

All dimensions in inches unless otherwise noted

North American Standards -Explosionproof

ATEX **IECE**x cULus Listed for Class I, Zone 2 cULus Marine Listed for Class I, Div. 1

CEPEL GOST-R NEMA 4X and IP68

Gland Type:

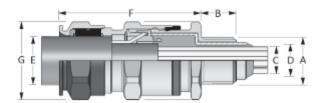
Armoured barrier

Cable Type:

Steel wire armoured, steel wire braided, steel tape armoured, braided marine shipboard and lead sheathed (with addition of earthing washer)

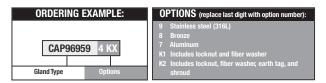
Certifications and Compliances:

- ATEX LCIE 97 ATEX 6008X Exd IIC/Exe II/Ex tD/Ex II 2 GD
- IECEx LCI 05.0004X
- cULus Listed for Class I. Zone 2 AEx de II/Ex de II
- cULus Marine Listed for Class I, Division 1, Groups A, B, C, D
- NEMA 4X and IP68
- CEPEL-EX-558/05X
- GOST-R POCC FR Bo2011
- NEPSI N° GYJ071336U & GYJ071337U
- ABS approbation: n° 10-HS 577243-PDA / P1836754-X
- DNV N° E-10892
- Lloyds



Features:

- Standard material is nickel-plated brass for superior corrosion
- · Armour clamping with no reversible components for easy installation, minimizing error
- Provides explosionproof compound seal (denoted by red back nut) on conductors and weatherproof seal on outer sheath of cable
- Deluge boot provides enhanced protection from water ingress
- Standard neoprene seal suitable for use in operating temperatures -60°C (-25°C UL) to 80°C
- · Available with metric or NPT threads
- See pages 96-99 for related accessories



SELECTION TABLE

	E . T. 10: (A)												cagon	
		Entry Threa	ad Size	'A']			Accept					Dime	nsions
						Inner Sheath			Ou					
					Thread		nd Core	s	Shea	th 'E'				
					Length	Max	Max					Gland		
					'B'	Over	Inner	Max			_	Length	_	Across
Gland	Metric	Metric	NPT	NPT	Metric	Cores	Sheath				Armour	'F' (less	Across	Corners
Size	Size	Catalog #	Size	Catalog #	(NPT)	'C'	'D'	Cores	Min	Max	(max)	entry)	Flats	'G'
5	M16	CAP969594	3/8"	CAP974594	15 (12.0)	6.5	7.5	6.0	6.0	12.0	0.9	46.0	_	20.9
5	M20	CAP969674	1/2"	CAP971674	15 (20.2)	6.5	7.5	6.0	6.0	12.0	0.9	46.0	_	26.4
6	M20	CAP969694	1/2"	CAP971674	15 (20.2)	9.5	11.0	6.0	8.5	16.0	1.25	53.0	-	26.4
7	M20	CAP969604	1/2"	CAP971604	15 (20.2)	12.0	14.5	10.0	12.0	21.0	1.25	59.0	_	33.0
7	M25	CAP969794	3/4"	CAP971794	15 (20.5)	12.0	14.5	10.0	12.0	21.0	1.25	59.0	_	33.0
8	M25	CAP969704	3/4"	CAP971704	15 (20.5)	17.0	19.5	21.0	16.0	27.5	1.6	74.5	_	45.1
8	M32	CAP969894	1"	CAP971894	15 (25.3)	17.0	19.5	21.0	16.0	27.5	1.6	74.5	_	45.1
9	M32	CAP969804	1"	CAP971804	15 (25.3)	23.0	28.0	42.0	21.0	34.0	1.6	83.5	_	52.8
9	M40	CAP969994	11/4"	CAP971994	15 (26.0)	23.0	28.0	42.0	21.0	34.0	1.6	83.5	_	52.8
10	M40	CAP969904	11/4"	CAP971904	15 (26.0)	29.0	33.0	60.0	27.0	41.0	2.0	92.0	-	60.5
10	M50	CAP970094	11/2"	CAP972094	16 (26.5)	29.0	33.0	60.0	27.0	41.0	2.0	92.0	-	60.5
11	M50	CAP970004	11/2"	CAP972004	16 (27.2)	36.5	41.0	80.0	33.0	48.0	2.5	104.0	_	70.4
12	M63	CAP970294	2"	CAP972274	17 (29.2)	43.0	48.0	100.0	40.0	56.0	2.5	108.0	_	79.2
13	M63	CAP970204	2"	CAP972204	17 (29.2)	50.0	56.0	100.0	46.0	65.0	2.5	118.0	_	93.5
13	M75	CAP970394	21/2"	CAP972494	18 (42.5)	50.0	56.0	100.0	46.0	65.0	2.5	118.0	-	93.5
14	M75	CAP970304	21/2"	CAP972404	18 (42.5)	59.0	65.0	120.0	54.0	74.0	2.5	124.0	-	104.5
14	-	_	3"	CAP972574	(44)	59.0	65.0	120.0	54.0	74.0	2.5	124.0	-	104.5
15	M90	CAP970594	3"	CAP972594	22 (44.0)	66.0	73.0	140.0	63.0	83.0	3.15	133.0	-	121.0
15	-	_	31/2"	CAP972694	(45.2)	66.0	73.0	140.0	63.0	83.0	3.15	133.0	-	121.0
16	M90	CAP970504	3"	CAP972504	22 (44.0)	75.0	82.0	140.0	72.0	93.0	3.15	137.0	-	132.0
16	-	_	31/2"	CAP972604	(45.2)	75.0	82.0**	140.0	72.0	93.0	3.15	137.0	-	132.0
17	M110	CAP970794	4"	CAP972704	22 (46.5)	85.0	92.0**	200.0	85.0	107.0	3.15	142.0	-	148.5

All dimensions in millimeters unless otherwise noted.
*Aluminum not currently available with UL marine certification.

^{**}Contact Customer Service or your field sales representative for amended UL marine range.

4

ADE 1FC

North American Standards -Explosionproof

ATEX IECEx cULus Listed for Class I. Zone 2 UL Marine Listed for Class I, Div. 2

CEPEL GOST-R NEMA 4X and IP68

Gland Type:

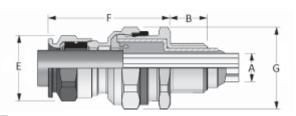
Non-armoured barrier

Cable Type:

Non-armoured, armoured and tray cable (does not terminate the

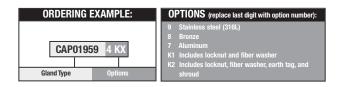
Certifications and Compliances:

- LCIE 97 ATEX 6008X II GD Exd IIC/Exe II/Ex tD
- IECEx LCI 05.0004X Ex c e IIC/Ex c e II/Ex tD
- cULus Listed for Class I, Zone 2 AEx de II/Ex de II
- UL Marine Listed for Class I, Division 2, Groups A, B, C, D
- NEMA 4X and IP68
- CEPEL EX-558/05X
- GOST-R POCC FR.B03126
- NEPSI N° GYJ071336U & GYJ071337U
- DNV N° E-10892
- ABS approbation: n° 10-HS 577243-PDA / P1836754-X
- Lloyds



Features:

- Standard material is nickel-plated brass for superior corrosion resistance
- Provides a flameproof and weatherproof seal on outer sheath of cable
- Provides explosionproof compound seal (denoted by red back nut) on conductors
- Deluge boot provides enhanced protection from water ingress
- Standard neoprene seal suitable for use in operating temperatures -60°C (-25°C UL) to 80°C
- Available with metric or NPT threads
- See pages 96-99 for related accessories



SELECTION TABLE

	Entry Thread Size 'A'			ď	Thread Length		ceptance		Gland		exagon ensions
Gland	Metric	Metric	NPT	NPT	'B' Metric	Outer S	heath 'E'	Max No.	Length 'F'	Across	Across
Size	Size	Catalog #	Size	Catalog #	(NPT)	Min	Max	Cores	(less entry)	Flats	Corners 'G'
4	M16	CAP019594	3/8"	CAP011594	15 (12.0)	4.0	7.5	6.0	46.0	_	20.9
4	M20	CAP019674	1/2"	CAP011674	15 (22.2)	4.0	7.5	6.0	46.0	_	26.4
5	M20	CAP019694	1/2"	CAP011694	15 (22.2)	6.5	11.0	6.0	53.0	_	26.4
6	M20	CAP019604	1/2"	CAP011604	15 (22.2)	9.0	14.5	10.0	59.0	_	33.0
6	M25	CAP019794	3/4"	CAP011794	15 (22.5)	9.0	14.5	10.0	59.0	_	33.0
7	M25	CAP019704	3/4"	CAP011704	15 (22.5)	12.0	19.5	21.0	74.5	_	45.1
7	M32	CAP019894	1"	CAP011894	15 (27.3)	12.0	19.5	21.0	74.5	_	45.1
8	M32	CAP019804	1"	CAP011804	15 (27.3)	17.5	26.0	42.0	83.5	-	52.8
8	M40	CAP019994	11/4"	CAP011994	15 (28.0)	17.5	26.0	42.0	83.5	_	52.8
9	M40	CAP019904	11/4"	CAP011904	15 (28.0)	23.0	33.0	60.0	92.0	-	60.5
9	M50	CAP019094	11/2"	CAP011094	16 (28.5)	23.0	33.0	60.0	92.0	_	60.5
10	M50	CAP019004	2"	CAP011004	16 (29.2)	28.5	41.0	80.0	104.0	_	70.4
10	M63	CAP019204	_	_	16	28.5	41.0	80.0	_	-	73.7
11	M63	CAP019294	2"	CAP011294	17 (29.2)	43.0	48.0	100.0	98.0	-	70.4
12	M63	CAP019274	2"	CAP011204	17 (29.2)	50.0	56.0	100.0	103.0	_	79.2
12	_	ı	21/2"	CAP011494	42.5	50.0	56.0	100.0	103.0	-	79.2
13	M75	CAP019304	21/2"	CAP011404	18 (42.5)	59.0	65.0	120.0	111.0	-	93.5
13	_	ı	3"	CAP012504	44	59.0	65.0	120.0	111.0	_	93.5
14	M90	CAP010594	3"	CAP012574	22 (44.0)	66.0	73.0	140.0	120.0	-	104.5
14	-	-	31/2"	CAP012604	45.2	66.0	73.0	140.0	120.0	_	104.5
15	M90	CAP010504	3"	CAP012594	22 (44.0)	75.0	82.0	140.0	125.0	-	121.0
15	_	-	31/2"	CAP012694	45.2	75.0	82.0**	140.0	125.0	-	121.0
16	M110	CAP010794	4"	CAP012704	22 (46.5)	85.0	92.0**	200.0	128.0	_	132.0

All dimensions in millimeters unless otherwise noted.

*Aluminum not currently available with UL marine certification.

**Contact Customer Service or your field sales representative for amended UL marine range.

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North American Standards - Explosionproof

CGBS:

CSA Certified Class I, Div. 1, Groups C, D Class II, Div. 1 & 2, Groups E, F, G Class III EBY:

UL, cUL Listed Class I, Div. 1, Groups B, C, D Class II, Div. 1, Groups F, G

Gland Type:

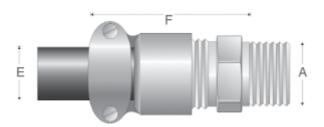
Portable cord connector

Cable Type:

Non-armoured and tray cable

Certifications and Compliances:

- CSA Certified Class I, Div. 1, Groups C, D
- Class II, Div. 1 & 2, Groups E, F, G
- Class III CSA File LR13046



CGBS Features:

- Body steel with zinc electroplate and chromate finish coat
- Gland nut aluminum
- Body well for Chico A sealing compound (for ordering information please contact customer service)
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- · Available with NPT threads

SELECTION TABLE

Entry	Thread Size 'A'	Form	Outer SI	neath 'E'	Gland Length 'F' (less entry)
NPT Size	NPT Catalog #		Min	Max	Giand Length F (less entry)
1/2"	CGBS1013	Α	0.312	0.437	51/4"
3/4"	CGBS2013	Α	0.312	0.437	51/4"
3/4"	CGBS2014	Α	0.375	0.500	51/4"
1"	CGBS3015	В	0.500	0.625	27/8"
1"	CGBS3016	В	0.625	0.750	215/16"
11/4"	CGBS4017	В	0.750	0.875	213/16"
11/4"	CGBS4018	В	0.875	1.000	31/2"
11/4"	CGBS4019	В	1.000	1.188	39/16"

All dimensions in inches unless otherwise noted.

Gland Type:

Portable cord connector

Cable Type:

Non-armoured

Certifications and Compliances:

- UL, cUL Listed Class I, Div. 1, Groups B, C, D
- Class II, Div. 1, Groups, F, G UL File E10279

SELECTION TABLE

En	try Thread Size 'A'	Outer Sheath 'E'				
NPT Size	NPT Catalog #	Min	Max			
3/4"	EBY2672	0.250	0.437			
3/4"	EBY2682	0.375	0.500			
3/4"	EBY26102	0.500	0.625			

All dimensions in inches unless otherwise noted.



EBY Features:

- Standard material is aluminum
- Factory sealed conductors and seal on outer sheath of cable
- Three, 12-inch long, #12 type SF-2 (150°C rating) stranded pigtails; two circuit wires and one identified grounding wire
- Three pressure connectors for 3-conductor cord, range #18 to #12 AWG
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- Available with NPT threads

UL, CSA Listed

4F

North American Standards -General Purpose

Gland Type:

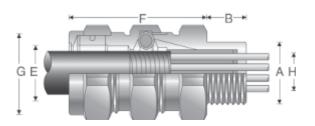
Armoured and TECK armoured

Cable Type:

Metal-clad (interlocked or continuously welded corrugated armoured) and TECK

Certifications and Compliances:

- UL Listed UL File E36379
- CSA Listed CSA File LR291
- NEMA 4 and IP56
- Wet locations



Features:

- Standard material is aluminum
- Stainless steel copper-plated spring provides grounding continuity of cable armour
- Watertight seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 60°C
- Cold Shrink™ Kit is available for extra protection in aggressive environments (see page 102)
- Available with NPT threads
- See page 102 for related accessories



SELECTION TABLE

Entry Thread Size 'A'		Thread	Cable Acceptance			Gland Length	Hexagon Dimensions		
NPT	NPT	Length	Armour Ra		Outer She		'F' (less	Across	Across
Size	Catalog #	'B' NPT	Min	Max	Min	Max	entry)	Flats	Corners 'G'
1/2"	TMC165	0.750	0.440	0.650	0.490	0.781	2.375	1.250	1.375
3/4"	TMC285	0.781	0.600	0.850	0.650	1.000	2.625	1.500	1.625
1"	TMC3112	0.938	0.800	1.120	0.850	1.313	2.625	1.875	2.000
11/4"	TMC4140	0.969	1.100	1.400	1.150	1.625	2.750	2.250	2.438
11/2"	TMC5161	0.969	1.330	1.610	1.380	1.781	2.750	2.500	2.75
2"	TMC6206	1.000	1.570	2.060	1.630	2.313	4.500	3.250	3.500
21/2"	TMC7247	1.438	1.930	2.470	1.990	2.719	4.750	3.750	4.000
3"	TMC8302	1.438	2.450	3.020	2.525	3.281	4.875	4.500	4.875
31/2"	TMC9352	1.625	2.950	3.520	3.025	3.781	5.375	5.000	5.375
4"	TMC10402	1.625	3.500	4.020	3.585	4.281	5.500	5.500	5.875

All dimensions in inches unless otherwise noted.

North American Standards - General Purpose

Gland Type:

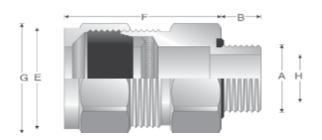
Armoured

Cable Type:

TECK armoured

Certifications and Compliances:

- CSA Certified Class II, Div. 1 & 2, Groups E, F, G; Class III CSA File LR13046
- Type 4 and IP56
- Wet locations



Features:

- Standard material is aluminum
- Stainless steel copper-plated spring provides grounding continuity of cable armour (TECK cable only)
- Watertight seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 60°C
- Cold Shrink™ Kit is available for extra protection in aggressive environments (see page 102)
- An integral o-ring seal on entry threads
- Available with NPT threads
- See page 102 for related accessories

SELECTION TABLE

				Entry Thread		Cable Acceptance				Gland Length		agon nsions
		Stainless		Size 'A'	Thread	Armour F	Range 'H'	Outer Sheath 'E'		"'F'	_	Across
Aluminum Catalog #	Steel Catalog #	Steel Catalog #	PVC Catalog #	NPT Size	Length 'B' NPT	Min	Max	Min	Max	(less entry)	Across Flats	Corners 'G'
TECK050 1	TECK050 1S	TECK050 1SS	TECK050 1PVC	1/2"	0.630	0.415	0.570	0.525	0.650	2.300	1.250	1.350
TECK050 2	TECK050 2S	TECK050 2SS	TECK050 2 PVC	1/2"	0.630	0.490	0.680	0.600	0.760	2.300	1.375	1.500
TECK050 3	TECK050 3S	TECK050 3SS	TECK0503PVC	1/2"	0.630	0.430	0.805	0.725	0.885	2.300	1.500	1.600
TECK050 4	TECK050 4S	TECK050 333	TECK0503PVC	1/2"	0.630	0.715	0.905	0.725	0.005	2.300	1.500	1.600
				3/4"	0.630					2.500	2.000	2.125
TECK075 5	TECK075 5S TECK075 6S	TECK075 5SS TECK075 6SS	TECK075 5PVC	3/4"	0.630	0.770	0.985 1.125	0.880 1.025	1.065	2.500		2.125
TECK075 6				1"	0.630	0.915		1.025		2.625	2.000	
TECK100 7	TECK100 7S	TECK100 7SS	TECK1007PVC	11/4"		1.077	1.295		1.375		2.250	2.400
TECK125 8	TECK125 8S		TECK125 8PVC	11/4"	0.800	1.240	1.545	1.350	1.625	3.500	3.000	3.125
TECK125 9	TECK125 9S		TECK125 9PVC	. , , .	0.800	1.390	1.545	1.500	1.625	3.400	3.000	3.125
	TECK125 10S	-	TECK125 10PVC	11/4"	0.800	1.490	1.795	1.600	1.875	3.500	3.000	3.125
TECK150 11	TECK150 11S	-	TECK150 11PVC	11/2"	0.800	1.590	1.885	1.700	1.965	3.800	3.750	3.600
	TECK150 12S	_	TECK150 12PVC	11/2"	0.800	1.790	2.107	1.900	2.187	3.900	3.500	3.750
	TECK200 13S	-	TECK200 13PVC	2"	0.825	1.790	2.107	1.900	2.187	4.000	3.750	4.000
	TECK200 14S	-	TECK200 14PVC	2"	0.825	1.990	2.280	2.100	2.375	4.000	3.750	4.000
	TECK200 15S	-	TECK200 15PVC	2"	0.875	2.190	2.485	2.300	2.565	4.000	4.125	4.400
	TECK200 16S	-	TECK200 16PVC	2"	0.875	2.390	2.656	2.500	2.750	4.000	4.125	4.400
	TECK250 17S	-	TECK250 17PVC	21/2"	1.300	2.240	2.560	2.380	2.640	5.000	4.500	4.750
	TECK250 18S	-	TECK250 18PVC	21/2"	1.300	2.440	2.750	2.580	2.840	5.000	4.500	4.750
	TECK300 19S	_	TECK300 19PVC	3"	1.400	2.640	2.970	2.790	3.060	5.000	4.600	4.900
	TECK300 20S	-	TECK300 20PVC	3"	1.400	2.870	3.190	3.000	3.270	5.000	4.900	5.250
TECK300 21	TECK300 21S	-	TECK300 21PVC	3"	1.400	3.042	3.390	3.210	3.480	5.000	5.000	5.250
TECK350 22	TECK350 22S	-	TECK350 22PVC	31/2"	1.400	3.270	3.590	3.420	3.690	5.000	5.600	5.900
TECK350 23	TECK350 23S	-	TECK350 23PVC	31/2"	1.400	3.440	3.770	3.610	3.870	5.000	5.500	5.900
TECK400 24	TECK400 24S	-	-	4"	1.400	3.600	3.930	3.810	4.030	5.000	6.125	6.500
TECK400 25	TECK400 25S	-	-	4"	1.400	3.755	4.065	3.965	4.185	5.000	6.125	6.500
TECK400 26	TECK400 26S	-	-	4"	1.400	3.910	4.220	4.120	4.340	5.000	6.125	6.500

All dimensions in inches unless otherwise noted.

cULus Listed

4F

North American Standards -General Purpose

Gland Type:

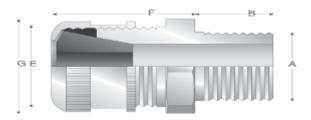
Non-armoured

Cable Type:

Non-armoured and tray cable

Certifications and Compliances:

- cULus Listed UL File E23223
- Suitable for use in Class I, Div. 2 hazardous locations when installed in accordance with NEC501.10(B)(2)



Features:

- Form A D bodies and gland nuts steel with zinc electroplate and chromate finish coat
- Form E F bodies and gland nuts Feraloy® iron alloy with electrogalvanized and aluminum acrylic paint
- Weatherproof seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- Available with NPT threads
- Available in all aluminum construction
- See page 102 for related accessories



SELECTION TABLE

Entry	Thread Size 'A'			Cable Ac	ceptance			Hexagon	Dimensions
NPT	NPT		Thread Length 'B'	Outer SI	neath 'E'	Gland Length 'F'	External Diameter	Across	Across
Size	Catalog #	Form	NPT	Min	Max	(less entry)	'G'	Flats	Corners 'G'
3/8"	CGB3814	Α	0.438	0.125	0.250	1.063	-	0.750	0.875
3/8"	CGB3816	Α	0.438	0.250	0.375	1.063	_	0.750	0.875
3/8"	CGB3817	Α	0.438	0.375	0.437	1.063	_	0.750	0.875
3/8"	CGB3892	В	0.438	0.125	0.250	1.313	_	1.000	1.188
3/8"	CGB3893	В	0.438	0.250	0.375	1.313	_	1.000	1.188
3/8"	CGB3894	В	0.438	0.375	0.500	1.313	_	1.000	1.188
1/2"	CGB114†	А	0.625†	0.125	0.250	1.000	_	0.875	1.188
1/2"	CGB116†	Α	0.625†	0.250	0.375	1.000	_	0.875	1.188
1/2"	CGB117†	A	0.625†	0.375	0.437	1.000	_	0.875	1.188
1/2"	CGB192*†	В	0.750*†	0.125	0.250	1.313	_	1.000	1.188
1/2"	CGB193*†	В	0.750*†	0.250	0.375	1.313	_	1.000	1.188
1/2"	CGB194*†	В	0.750*†	0.375	0.500	1.313	_	1.000	1.188
1/2"	CGB195*†	В	0.750*†	0.500	0.625	1.313	_	1.000	1.188
1/2"	CGB196*	С	0.625*	0.625	0.750	1.750	-	1.500	1.656
1/2"	CGB197*†	С	0.625*†	0.750	0.875	1.750	_	1.500	1.656
3/4"	CGB292†	В	0.625†	0.125	0.250	1.375	_	1.060	1.250
3/4"	CGB293†	В	0.625†	0.250	0.375	1.375	-	1.060	1.250
3/4"	CGB294†	В	0.625†	0.375	0.500	1.375	_	1.060	1.250
3/4"	CGB295†	В	0.625†	0.500	0.625	1.375	_	1.060	1.250
3/4"	CGB296*†	С	0.625*†	0.625	0.750	1.750	-	1.630	1.656
3/4"	CGB297*†	С	0.625*†	0.750	0.875	1.750	_	1.630	1.656
3/4"	CGB298*†	D	0.625*†	0.875	1.000	2.500	2.250	_	_
1"	CGB393†	В	0.688†	0.250	0.375	1.375	_	1.375	1.625
1"	CGB394†	В	0.688†	0.375	0.500	1.375	_	1.375	1.625
1"	CGB395*†	С	0.688*†	0.500	0.625	1.688	_	1.500	1.875
1"	CGB396*†	С	0.688*†	0.625	0.750	1.688	_	1.500	1.875
1"	CGB397*†	С	0.688*†	0.750	0.875	1.688	_	1.500	1.875
1"	CGB3239†	С	0.688†	0.875	1.000	1.688	_	_	1.875
1"	CGB398*†	D	0.625*†	0.875	1.000	2.375	2.375	_	_
1"	CGB399*†	D	0.625*†	1.000	1.188	2.375	2.375	-	_
1"	CGB3911*†	D	0.625*†	1.188	1.375	2.375	2.375	-	_

All dimensions in inches unless otherwise noted.

*With optional Sealing Gasket.

†With optional Aluminum Construction.



North American Standards -General Purpose

Entry T	hread Size 'A'		Thread	Cable Ac	ceptance	Gland	External	Hexagon I	Dimensions
NPT	NPT		Length 'B'	Outer S	heath 'E'	Length 'F'	Diameter	Across	Across
Size	Catalog #	Form	NPT	Min	Max	(less entry)	'G'	Flats	Corners 'G'
11/4"	CGB498	D	0.688	0.875	1.000	2.313	2.250	-	_
11/4"	CGB499	D	0.688	1.000	1.188	2.313	2.250	ı	_
11/4"	CGB4911	D	0.688	1.188	1.375	2.313	2.250	_	_
11/4"	CGB4913	Е	0.688	1.375	1.625	2.625	3.000	ı	_
11/4"	CGB4915	E	0.688	1.625	1.875	2.625	3.000	-	_
1 1/2"	CGB598	D	0.813	0.875	1.000	2.313	2.250	-	_
11/2"	CGB599	D	0.813	1.000	1.188	2.313	2.250	-	_
11/2"	CGB5911	D	0.813	1.188	1.375	2.313	2.250	_	_
11/2"	CGB5913	Е	0.813	1.375	1.625	2.625	3.000	-	_
11/2"	CGB5915	Е	0.813	1.625	1.875	2.625	3.000	_	_
2"	CGB6913	Е	0.813	1.375	1.625	2.625	3.000	-	_
2"	CGB6915	E	0.813	1.625	1.875	2.625	3.000	-	_
2"	CGB6917	F	0.813	1.875	2.188	2.563	3.750	_	_
2"	CGB6920	F	0.813	2.188	2.500	2.563	3.750	-	-
21/2"	CGB7913	E	1.000	1.375	1.625	2.625	3.125	ı	_
21/2"	CGB7915	E	1.000	1.625	1.875	2.625	3.125	ı	_
21/2"	CGB7917	F	1.000	1.875	2.188	2.625	3.750	ı	_
21/2"	CGB7920	F	1.000	2.188	2.500	2.625	3.750	-	_
3"	CGB8917	F	1.000	1.875	2.188	2.625	3.750	ı	
3"	CGB8920	F	1.000	2.188	2.500	2.625	3.750	_	_

Gland Type:

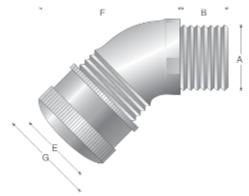
Non-armoured

Cable Type:

Non-armoured and tray cable

Certifications and Compliances:

- cULus Listed UL File E23223
- Suitable for use in Class I, Div. 2 hazardous locations when installed in accordance with NEC501.10(B)(2)



Features:

- 45° angle with male thread
- Standard body material is Feraloy® iron alloy
- Standard gland nut material is steel
- Weatherproof seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- Available with NPT threads
- See page 102 for related accessories

SELECTION TABLE

Entry Th	read Size 'A'	Thread Length	Cable Ac		Gland Length	External
NPT Size	NPT Catalog #	'B' NPT	Min	Max	'F' (less entry)	Diameter 'G'
1/2"	CGD192	0.630	0.125	0.250	1.688	1.188
1/2"	CGD193	0.630	0.250	0.375	1.688	1.188
1/2"	CGD194	0.630	0.375	0.500	1.688	1.188
1/2"	CGD195	0.630	0.500	0.625	1.688	1.188
1/2"	CGD196	0.630	0.625	0.750	2.063	1.625
1/2"	CGD197	0.630	0.750	0.875	2.063	1.625
3/4"	CGD292	0.630	0.125	0.250	1.938	1.141
3/4"	CGD293	0.630	0.250	0.375	1.938	1.141
3/4"	CGD294	0.630	0.375	0.500	1.938	1.125
3/4"	CGD295	0.630	0.500	0.625	1.938	1.125
3/4"	CGD296	0.630	0.625	0.750	2.000	1.625
3/4"	CGD297	0.630	0.750	0.875	2.000	1.625

Gland Type:

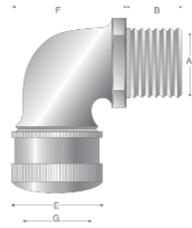
Non-armoured

Cable Type:

Non-armoured and tray cable

Certifications and Compliances:

- cULus Listed UL File E23223
- Suitable for use in Class I, Div. 2 hazardous locations when installed in accordance with NEC501.10(B)(2)



Features:

- 90° angle with male thread
- Standard body material is Feraloy® iron alloy
- Standard gland nut material is steel
- Weatherproof seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- Available with NPT threads
- See page 102 for related accessories

SELECTION TABLE

Entry 1	Thread Size 'A'	Thursday	Cable Ac	ceptance		
NPT	NPT	- Thread Length	Outer Sh	neath 'E'	Gland Length	External
Size	Catalog #	'B' NPT	Min	Max	'F' (less entry)	Diameter 'G'
1/2"	CGE192	0.710	0.1250	0.2500	1.438	1.188
1/2"	CGE193	0.710	0.2500	0.3750	1.438	1.188
1/2"	CGE194	0.710	0.3750	0.5000	1.438	1.188
1/2"	CGE195	0.710	0.5000	0.6250	1.438	1.188
1/2"	CGE196	0.710	0.6250	0.7500	2.000	1.625
1/2"	CGE197	0.710	0.7500	0.8750	2.000	1.625
3/4"	CGE292	0.710	0.1250	0.2500	1.406	1.188
3/4"	CGE293	0.710	0.2500	0.3750	1.406	1.188
3/4"	CGE294	0.710	0.3750	0.5000	1.406	1.188
3/4"	CGE295	0.710	0.5000	0.6250	1.406	1.188
3/4"	CGE296	0.710	0.6250	0.7500	1.875	1.625
3/4"	CGE297	0.710	0.7500	0.8750	1.875	1.625
1"	CGE395	0.710	0.5000	0.6250	2.063	1.625
1"	CGE396	0.710	0.6250	0.7500	2.094	1.625
1"	CGE397	0.710	0.7500	0.8750	2.094	1.625
1"	CGE3239	0.710	0.8750	1.0000	2.094	2.250
1"	CGE398	0.710	0.8750	1.0000	2.656	2.250
1"	CGE399	0.710	1.0000	1.1880	2.656	1.625
1"	CGE3911	0.710	1.1880	1.3750	2.656	2.250

Gland Type:

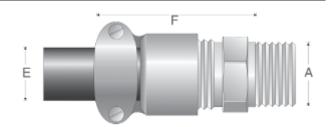
Portable cord connector

Cable Type:

Non-armoured and tray cable

Certifications and Compliances:

- cULus Listed UL File E23223
- Suitable for use in Class I, Div. 2 hazardous locations when installed in accordance with NEC501.10(B)(2)



Features:

- Body steel with zinc electroplate and chromate finish coat
- Gland nut material is aluminum
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- Available with NPT threads
- See page 102 for related accessories

SELECTION TABLE

Entry Threa	d Size 'A'	Outer SI	neath 'E'
NPT Size	NPT Catalog #	Min	Max
1/2"	CGB1013	0.312	0.437
1/2"	CGB1014	0.375	0.500
1/2"	CGB1015	0.500	0.625
3/4"	CGB2013	0.312	0.437
3/4"	CGB2014	0.375	0.500
3/4"	CGB2015	0.500	0.625

Gland Type:

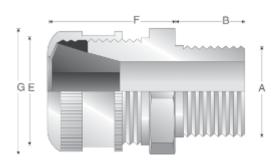
Non-armoured

Cable Type:

Non-armoured and tray cable

Certifications and Compliances:

• Suitable for use in Class I, Div. 2 hazardous locations when installed in accordance with NEC501.10(B)(2)



Features:

- Form B C standard body and gland nut are turned steel
- Form D G standard body and gland nut are Feraloy® iron alloy
- Weatherproof seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- Available with NPT threads
- See page 102 for related accessories

SELECTION TABLE

Entry TI	rread Size 'A'		Thread Length	Cable Ac		Gland Length	External
NPT Size	NPT Catalog #	Form	'B' NPT	Min	Max	'F' (less entry)	Diameter 'G'
1/2"	CGFP192	В	0.750	0.1250	0.2500	1.375	1.281
1/2"	CGFP193	В	0.750	0.2500	0.3750	1.375	1.281
1/2"	CGFP194	В	0.750	0.3750	0.5000	1.375	1.281
1/2"	CGFP195	В	0.750	0.5000	0.6250	1.375	1.281
3/4"	CGFP296	С	0.750	0.6250	0.7500	1.750	1.781
3/4"	CGFP297	С	0.750	0.7500	0.8750	1.750	1.781
3/4"	CGFP2239	С	0.750	0.8750	1.0000	1.750	1.781
1"	CGFP396	С	0.938	0.6250	0.7500	1.750	1.781
1"	CGFP397	С	0.938	0.7500	0.8750	1.750	1.781
1"	CGFP3239	С	0.938	0.8750	1.0000	1.750	1.781
11/4"	CGFP499	D	0.938	1.0000	1.1880	2.375	2.250
11/4"	CGFP4911	D	0.938	1.1880	1.3750	2.375	2.250
11/2"	CGFP599	D	0.938	1.0000	1.1880	2.375	2.250
11/2"	CGFP5911	D	0.938	1.1880	1.3750	2.375	2.250
2"	CGFP6913	Е	1.000	1.3750	1.6250	3.250	3.250
2"	CGFP6915	Е	1.000	1.6250	1.8750	3.250	3.250
21/2"	CGFP7917	F	1.438	1.8750	2.1880	3.250	3.875
21/2"	CGFP7920	F	1.438	2.1880	2.5000	3.250	3.875
3"	CGFP8917	F	1.500	1.8750	2.1880	3.250	3.875
3"	CGFP8920	F	1.500	2.1880	2.5000	3.250	3.875
31/2"	CGFP923	G	1.563	2.5000	3.0000	4.250	5.500
31/2"	CGFP927	G	1.563	3.0000	3.5000	4.250	5.500
4"	CGFP1023	G	1.625	2.5000	3.0000	4.250	5.500
4"	CGFP1027	G	1.625	3.0000	3.5000	4.250	5.500

Gland Type:

Non-armoured

Cable Type:

Non-armoured and tray cable

Certifications and Compliances:

• cULus Listed - UL File E23223

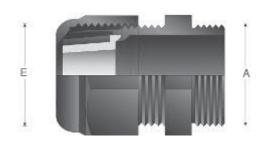
SELECTION TABLE

Entry ⁻	Thread Size 'A'	Outer S	Sheath 'E'
NPT Size	NPT Catalog #	Min	Max
3/8"	NCG38 35	0.10	0.35
1/2"	NCG50 50	0.20	0.50
3/4"	NCG75 75	0.35	0.75
1"	NCG100 100	0.55	1.00

All dimensions in inches unless otherwise noted.







NCG Features:

- Standard material is polyamide 6
- Weatherproof seal on outer sheath of cable
- Standard neoprene seal suitable for use in operating temperatures -25° to 40°C
- Available with NPT threads

POLYAMIDE LOCK NUT SELECTION TABLE

Size	Catalog #
3/8"	10N
1/2"	11N
3/4"	12N
1"	13N

Gland Type:

Non-armoured

Cable Type:

Non-armoured and tray cable

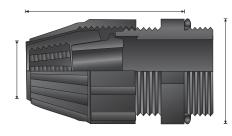
Certifications and Compliances:

- cULus Listed UL File E23223
- NEMA 3, 4X

SELECTION TABLE

		Acce	able ptance	Gland Length	External
NPT	NPT		ge 'E'	(Less Entry)	Diameter
Size	Catalog #	Min	Max	'F'	'G'
1/2"	NCGB1231	0.25	0.42	2.25	1.33
1/2"	NCGB1232	0.40	0.57	2.25	1.33
3/4"	NCGB2233	0.54	0.68	2.52	1.58
3/4"	NCGB2234	0.64	0.78	2.52	1.58
1"	NCGB3235	0.76	0.91	3.19	2.02
1"	NCGB3236	0.89	1.03	3.19	2.02

All dimensions in inches unless otherwise noted.



NCGB Features:

- Standard material is thermoplastic polyester
- Tightens by hand to create a watertight seal
- Gasket on entry threads included
- Compact design allows close grouping of connectors
- Available with NPT threads

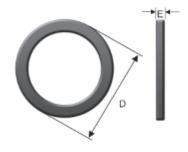
A Series - Lock Nut - Standard material is nickel-plated brass

METRIC S	SELE	СТ	ION TABLE	NPT SELE	CTIC	N T	ABLE		-
Entry Thread	Α	В	Catalog #	Entry Thread	Α	В	Catalog #	A	
M16	3	19	CAP221694	1/2"	3.75	25.4	CAP280124		
M20	4	24	CAP222094	3/4"	4	33	CAP280134		
M25	4	30	CAP222594	1"	4.75	40	CAP280144	(П) В	
M32	4.5	36	CAP223294	11/4"	5.25	50	CAP280154		
M40	4.5	46	CAP224094	11/2"	5.75	55.9	CAP280164		
M50	4.7	65	CAP225094	2"	6.25	70	CAP280174		
M63	6.4	80	CAP226394	21/2"	9	90	CAP280184		
M75	6.4	95	CAP227594	3"	10	105	CAP280194		
M90	8	110	CAP229094						
M110	12	130	CAP221104						

^{*} For stainless steel replace last digit with "9".

A Series - Sealing Washer - Standard material is neoprene

ME	TRIC SEL	ECTION	TABLE	NF	PT SELECT	LION .	TABLE
Metric Size	Metric Catalog #	Metric Diam. 'D'	Metric Thickness 'E'	NPT Size	NPT Catalog #	NPT Diam. 'D'	NPT Thickness 'E'
10	CAP221049	15.0	1.2	1/4"	CAP229014	20.0	1.5
12	CAP221249	18.0	1.2	3/8"	CAP229038	22.0	1.5
16	CAP221649	22.0	1.2	1/2 "	CAP229012	27.0	1.5
20	CAP222049	24.0	1.2	3/4"	CAP229034	33.0	1.5
25	CAP222549	30.0	1.5	1"	CAP229010	41.0	1.5
32	CAP223249	42.0	1.5	11/4"	CAP229114	52.0	1.5
40	CAP224049	52.0	1.5	11/2"	CAP229112	57.0	1.5
50	CAP225049	63.0	1.5	2"	CAP229020	71.0	2.0
63	CAP226349	77.0	2.0	21/2"	CAP229212	85.0	2.0
_	_	_	_	3"	CAP229300	104.0	2.0
-	-	-	-	31/2"	CAP229312	120.0	2.0



A Series – Earth Tag – Standard material is nickel-plated brass

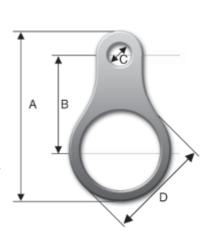
METRIC SELECTION TABLE

					.,	
	Entry Thread	Α	В	С	D	Catalog #
ĺ	M16	48.75	30	6.75	24.5	CAP567034
	M20	53.8	33	7	28.6	CAP567054
	M25	61.5	36	10.5	34	CAP567074
	M32	73	41	12.2	42	CAP567094
	M40	86.5	44.5	13.5	54	CAP567124
	M50	111.5	58	13.5	67	CAP567154
	M63	125.5	67	13.5	77	CAP567184
	M75	137.5	73	13.5	89	CAP567194

NPT SELECTION TABLE

Entry Thread	Α	В	С	D	Catalog #
1/2"	61.5	36	10.5	34	CAP567064
3/4"	73	41	12.2	42	CAP567084
1"	73	41	12.2	42	CAP567104
11/4"	86.5	44.5	13.5	54	CAP567134
11/2"	111.5	58	13.5	67	CAP567154
2"	125.5	67	13.5	77	CAP567174
21/2"	137.5	73	13.5	89	CAP567194





A Series - Serrated Lock Washer

- Standard material is stainless steel



A-Series - Shroud

- Standard material is PVC

Gland Size



SELECTION TABLE

Catalog #

			4
	SELECTION TAB	SLE	5
Metric Size	External Diameter	Catalog #	6
			- 7
16	25.5	CAP280069	8
20	32.5	CAP280029	9
25	39.5	CAP280259	10
32	49.5	CAP280329	11
40	64.5	CAP280409	12
50	80.5	CAP280509	
63	100	CAP280639	13
			14
75	112	CAP280759	15
90	123	CAP280099	16

A Series - Clamping Module

- Standard materials are nickel-plated brass body with stainless steel screws and washers

SELECTION TABLE

Cable Range	Gland Size	Across Flats	Width	Thickness	Catalog #
4-8.5	4	15	18	5	CAP810434
6-11	5	19	22	5	CAP810534
8.5-16	6	24	27.5	6	CAP810634
12-21	7	30	33.5	8	CAP810734
16-27.5	8	41	45	8	CAP810834
21-34	9	48	52	9.5	CAP810934
27-41	10	55	59	9.5	CAP811034
33-48	11	64	69	12	CAP811134
40-56	12	72	78	12	CAP811234
47-65	13	85	92	16	CAP811334
54-74	14	95	103	16	CAP811434
63-83	15	110	118	18	CAP811534
72-93	16	120	128	18	CAP811634



A Series - Earthing Washer_Standard material is brass

METRIC SELECTION TABLE

	Lead Sheath S	ealing Range	Cable	
Gland Size	Min	Max	Diameter	Catalog #
5	4	7.5	10	CAP560530
6	6	11	13.9	CAP560630
7	9	15	18.3	CAP560730
8	12	20	23.8	CAP560830
9	16	26.5	31	CAP560930
10	21	32.5	38.3	CAP561030
11	28	39.5	45.3	CAP561130
12	33	46.5	52.8	CAP561230
13	40	54.5	60.8	CAP561330
14	46.5	61	71	CAP561430
15	54	72.5	80.5	CAP561530
16	63	81.5	89.5	CAP561630



All dimensions in millimeters unless otherwise noted.

Crouse-Hinds

A Series – Adaptors and Reducers - Standard material is nickel-plated brass ATEX Exe Exd with LCIE 98 ATEX 00010

METRIC x METRIC SELECTION TABLE

 em	_	

Male	M12	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M110
M12		745334										
M16	745834		740274									
M20	745844	740024		740544								
M25		740034	740294		740814							
M32			740304	740564		741084						
M40				740574	740834		741354					
M50					740844	741104		741624				
M63						741114	741374		741894			
M75							741384	741644		745394		
M90									745864			
M110												

METRIC x NPT SELECTION TABLE

Female →

Male	1/411	3/811	1/2"	3/411	1"	11/4"	1 1/2"	2"	2 ¹ / ₂ "	3"	31/2"
M12	744104										
M16		744194	744694								
M20	744204	744214	744704	744964							
M25			744714	744974	745234						
M32			744724	744984	745244	745504					
M40				744994	745254	745514	745774				
M50					745264	745524	745784	746044			
M63							745794	746054	746314		
M75								746064	746324	746584	
M90										744304	
M110											



Size not available

NPT x METRIC SELECTION TABLE

Female \rightarrow

Male	M12	M16	M20	M25	M32	M40	M50	M63	M75	M90	M100	M110
1/4"	740614	740624										
3/8"	740884	740894	740904									
1/2"	740914	740194	740454	740714								
3/4"		740204	740464	740724	740984							
1"			740474	740734	740994	741264	741524					
11/4"				740744	741004	741274	741534	741794				
11/2"					741104	741284	741544	741804	742064			
2"							741554	741814				
21/2"								741824				
3"												
31/2"												
4"												

NPT x NPT SELECTION TABLE

Female →

	i omaio	,										
Male	1/411	3/811	1/2"	3/4"	1"	11/4"	11/2"	2"	21/211	3"	31/211	4"
1/4"												
3/8"	745574		744624									
1/2"		745594		745134								
3/4"			744884		745404							
1"			744894	745154		745674						
11/4"				745164	745424		745944					
11/2"					745434	745694		746214				
2"						745704	745964		746484			
21/2"								746234				
3"								746244	746504			
31/2"												
4"												

^{*} For stainless steel replace last digit with "9".

A Series - Stopping Plug - Standard material is nickel-plated brass; ATEX Exe Exd with LCIE 98 ATEX 00010

METRIC SELECTION TABLE

Metric Size	Metric Catalog #*	Across Flats 'A'	Hex Thickness 'B'	Thread Length 'E'
12	CAP190124	14	2.8	15
16	CAP190164	18	3.0	15
20	CAP190204	23	3.0	15
25	CAP190254	28	3.5	15
32	CAP190324	36	4.0	15
40	CAP190404	44	4.0	15
50	CAP190504	54	5.0	16
63	CAP190634	67	5.5	17
75	CAP190754	80	6.0	18
80	CAP190804	85	7.0	20
90	CAP199904	95	8.0	22
100	CAP191004	110	10.0	22

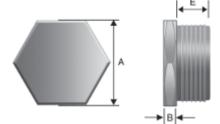
^{*} For stainless steel replace last digit with "9".



NPT Size	NPT Catalog #*	Across Flats 'A'	Hex Thickness 'B'	Thread Length 'E
1/4"	CAP190194	14	2.8	12
3/8"	CAP109294	18	2.8	12
1/2"	CAP190394	22	3.0	16
3/4"	CAP190494	28	3.0	16
1"	CAP190594	36	3.5	20
11/4"	CAP190694	44	4.0	20
11/2"	CAP190794	50	5.0	20
2"	CAP190894	64	5.5	20
21/2"	CAP190994	75	6.0	28
3"	CAP191094	90	6.0	30
31/2"	CAP191194	110	10.0	32



^{*}For stainless steel replace last digit with "9".

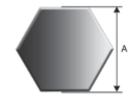


A Series - Nonmetallic Stopping Plug - Standard material is polyamide 6; ATEX certified Ex e II with LCIE 97ATEX6007X

Washer and locknut are required for non-threaded holes (not included) see page 96

POLYAMIDE SELECTION TABLE

				_	
Metric Size	Metric Catalog #*	Across Flats 'A'	Hex Thickness 'B'	Thread Length 'E'	
12	CAP191127	15	4	15	
16	CAP191167	19	4	15	
20	CAP191207	23	4	15	
25	CAP191257	28	5	15	
32	CAP191327	36	5.5	15	
40	CAP191407	44	5.5	15	
50	CAP191507	54	6	16	
63	CAP191637	67	6.5	17	





*For stainless steel replace last digit with "9".

B Series - Lock Nut - Standard material is brass

METRIC SELE	CTION TABLE	NPT SELEC	TION TABLE	
Metric Entry Thread	Catalog #	NPT Entry Thread	Catalog #	
M16	BLN/M16	1/2"	BLN/050NPT	terres
M20	BLN/M20	3/4"	BLN/075NPT	N/A
M25	BLN/M25	1"	BLN/100NPT	- 88
M32	BLN/M32	11/4"	BLN/125NPT	- 100
M40	BLN/M40	11/2"	BLN/150NPT	180
M50	BLN/M50	2"	BLN/200NPT	- 10
M63	BLN/M63	21/2"	BLN/250NPT	- 100
M75	BLN/M75	3"	BLN/300NPT	W
M80	BLN/M80	31/2"	BLN/350NPT	
M85	BLN/M85	4"	BLN/400NPT	
M90	BLN/M90			
M100	BLN/M100			

B Series - Sealing Washer - Standard material is nylon

METRIC SELEC	CTION TABLE	NPT SELEC	TION TABLE		
Metric Entry Thread	Catalog #	NPT Entry Thread	Catalog #		
M16	RNSW/M16	1/2"	RNSW/050NPT		
M20	RNSW/M20	3/4"	RNSW/075NPT		
M25	RNSW/M25	1"	RNSW/100NPT		
M32	RNSW/M32	11/4"	RNSW/125NPT		
M40	RNSW/M40	11/2"	RNSW/150NPT	11	
M50	RNSW/M50	2"	RNSW/200NPT		
M63	RNSW/M63	21/2"	RNSW/250NPT		
M75	RNSW/M75	3"	RNSW/300NPT		
M80	RNSW/M80	31/2"	RNSW/350NPT		
M85	RNSW/M85	4"	RNSW/400NPT		
M90	RNSW/M90				
M100	RNSW/M100				

B Series – Earth Tag – Standard material is brass

METRIC SELEC	TION TABLE	NPT SELECT	TION TABLE
Metric Entry Thread	Catalog #	NPT Entry Thread	Catalog #
M16	BET/M16	1/2"	BET/050NPT
M20	BET/M20	3/4"	BET/075NPT
M25	BET/M25	1"	BET/100NPT
M32	BET/M32	11/4"	BET/125NPT
M40	BET/M40	11/2"	BET/150NPT
M50	BET/M50	2"	BET/200NPT
M63	BET/M63	21/2"	BET/250NPT
M75	BET/M75	3"	BET/300NPT
M80	BET/M80	31/2"	BET/350NPT
M85	BET/M85	4"	BET/400NPT
M90	BET/M90		
M100	BET/M100		

B Series – Shroud						
PVC SELEC	TION TABLE	PCP SELI	ECTION TABLE	PVC		
Size (Gland Size)	Catalog #	Size	Catalog #	110		
L24 (16, 20s)	PVC-L24	L24 (16, 20s)	PCP-L24			
L30 (20)	PVC-L30	L30 (20)	PCP-L30	9.5		
L38 (25)	PVC-L38	L38 (25)	PCP-L38			
L46 (32)	PVC-L46	L46 (32)	PCP-L46			
L55 (40)	PVC-L55	L55 (40)	PCP-L55			
L65 (50, 50s)	PVC-L65	L65 (50, 50s)	PCP-L65			
L80 (63, 63s)	PVC-L80	L80 (63, 63s)	PCP-L80			
L90 (75, 75s)	PVC-L90	L90 (75, 75s)	PCP-L90			
L104 (80,85)	PVC-L104	L104 (80, 85)	PCP-L104	JIJJJJJJ		
L114 (90, 100)	PVC-L114			PCP		

All dimensions in millimeters unless otherwise noted.

D Series - Lock Nut - Standard material is polyamide

SELECTION TABLE

Metric Entry Diameter	Width	Thickness	Catalog #
M12 x 1.5	17.00	5.00	GHG 960 1941 R0031
M16 x 1.5	22.00	5.00	GHG 960 1941 R0032
M20 x 1.5	26.00	6.00	GHG 960 1941 R0033
M25 x 1.5	32.00	6.00	GHG 960 1941 R0034
M32 x 1.5	41.00	7.00	GHG 960 1941 R0035
M40 x 1.5	50.00	7.00	GHG 960 1941 R0036
M50 x 1.5	60.00	8.00	GHG 960 1941 R0037
M63 x 1.5	75.00	8.00	GHG 960 1941 R0038



D Series - Reducing Ring - Standard material is polyamide

SELECTION TABLE

Thread 1	Thread 2	Length 1	Length 2	Length 3	Across Flats	Catalog #
20 x 1.5	M16 x 1.5	12.00	8.00	8.00	24.00	GHG 960 1946 R0071
25 x 1.5	M20 x 1.5	14.00	8.00	8.00	29.00	GHG 960 1946 R0072
32 x 1.5	M20 x 1.5	16.00	10.00	6.00	36.00	GHG 960 1946 R0056
32 x 1.5	M25 x 1.5	16.00	10.00	10.00	36.00	GHG 960 1946 R0074
40 x 1.5	M25 x 1.5	16.00	10.00	8.00	46.00	GHG 960 1946 R0059
40 x 1.5	M32 x 1.5	16.00	10.00	10.00	46.00	GHG 960 1946 R0077
50 x 1.5	M32 x 1.5	18.00	12.00	10.00	55.00	GHG 960 1946 R0062
50 x 1.5	M40 x 1.5	18.00	12.00	10.00	68.00	GHG 960 1946 R0080
63 x 1.5	M40 x 1.5	18.00	12.00	10.00	68.00	GHG 960 1946 R0065
63 x 1.5	M50 x 1.5	18.00	12.00	12.00	68.00	GHG 960 1946 R0083



D Series - Screw Plug - Standard material is polyamide

SELECTION TABLE

Thread 1	Diameter	Length 1	Length 2	Catalog #
16 x 1.5	21.50	4.00	12.00	GHG 960 1952 R0111
20 x 1.5	25.50	4.00	13.00	GHG 960 1952 R0112
25 x 1.5	30.50	4.00	13.00	GHG 960 1952 R0113
32 x 1.5	37.50	5.50	15.00	GHG 960 1952 R0114
40 x 1.5	45.50	5.50	15.00	GHG 960 1952 R0115
50 x 1.5	55.50	5.50	16.00	GHG 960 1952 R0116
63 x 1.5	85.00	6.50	16.00	GHG 960 1952 R0117



D Series - Blanking Plug - For sealing unused cable glands; Standard material is polyamide

SELECTION TABLE

Thread 1	Diameter	Length 1	Catalog #	
12	6.00	30.30	GHG 960 1944 R0101	
16	7.00	33.00	GHG 960 1944 R0102	
20	8.50	34.50	GHG 960 1944 R0103	
25	11.00	36.00	GHG 960 1944 R0104	
32	14.00	39.50	GHG 960 1944 R0105	
40	20.00	42.00	GHG 960 1944 R0106	
50	26.00	44.00	GHG 960 1944 R0107	
63	34.00	45.00	GHG 960 1944 R0108	



All dimensions in millimeters unless otherwise noted.

E Series - Chico® LiquidSeal

SELECTION TABLE

Std. Carton Qty.	Size (ml.)	Catalog #
10	10 ml.	LSC 10
10	20 ml.	LSC 20
5	50 ml.	LSC 50



E Series - TSC Epoxy Sealing Compound

SELECTION TABLE

Std. Carton Qty.	Tube Size	Catalog #
10 10	0.5 oz. 1.0 oz.	TSC05 TSC1
5	4.0 oz.	TSC4



E Series - Wire Mesh Grip

SELECTION TABLE

Cord Range Diameter	Gland Nut	Wire Mesh Grip Catalog #
.375 to .500	NUT94	RPE417-115
.500 to .625	NUT94	RPE417-116
.500 to .625	NUT95	RPE417-129
.625 to .750	NUT95	RPE417-117
.750 to .875	NUT95	RPE421-119
.875 to 1.000	NUT98	16676N
.875 to 1.000	NUT98	16676N
.875 to 1.000	NUT95	RPE421-120
.875 to 1.000	NUT98	16676N
1.000 to 1.188	NUT98	RPE421-121
1.188 to 1.375	NUT98	RPE433-122
1.375 to 1.625	NUT913	RPE433-123
1.625 to 1.875	NUT913	17317N



E Series - Cold Shrink™ Kit

SFI FCTION TABLE

Catalog #
TMC-K1
TMC-K2
TMC-K3
TMC-K4
TMC-K5
TMC-K6
TMC-K7
TMC-K8
TMC-K9
TMC-K10

All dimensions in inches unless otherwise noted.

Cold Shrink™ Corrosion Protection Kits are specially designed for Eaton's Crouse-Hinds TMC, TMCX, and TECK fittings to provide protection against corrosive elements like salt spray and moisture. The TMC-K kit is made of a Cold Shrink material that is quick and easy to install on the gland. The Cold Shrink material is made of EPDM rubber that contains no chlorides or sulfurs. The protection kit installs easily over the gland without the use of a heat source to shrink the material tightly over the seal. The Cold Shrink material can be removed easily from the gland by simply cutting it off. See ordering information for complete offering of TMC-K Cold Shrink kits for corrosion protection. Cold Shrink is a registered trademark of the 3M Company.

Breather Drain - SIRA 99 ATEX 3050 U
I M2 II, 2GD, EExe I & II (Stainless steel & brass only)
II 2GD, EExe II (Nylon only)
Enclosure type 4X IP66

SELECTION TABLE

Entry Thread	Material	Catalog #	
M20	Brass	DPE1004S3	
M20	Stainless Steel	DPE3004S3	
M20	Nylon	DPE4004S3	
M25	Brass	DPE1005S3	
M25	Stainless Steel	DPE3005S3	
M25	Nylon	DPE4005S3	
1/2"	Brass	DPE1029S3	
1/2"	Stainless Steel	DPE3029S3	
3/4"	Brass	DPE1030S3	
3/4"	Stainless Steel	DPE3030S3	

Drainage Plug - Standard material is polyamide; PTB01 ATEX 1128X Ex 1126 Exe II

SELECTION TABLE

Thread 1	Diameter	Length 1	Length 2	Catalog #
M25 x 1.5	30.00	19.00	4.50	GHG 960 1927 R0105

Breathing and Drainage Plug - Standard material is glass-filled polyamide; SIRA 99 ATEX 3050 U Ex 1126 Exe II

SELECTION TABLE

Thread 1	Catalog #	
M25 x 1.5	GHG 960 1954 R0002	

All dimensions in millimeters unless otherwise noted.

Please refer to section 6F for additional breather and drain options.

Applications:

LCC cable tray conduit clamps are used for installation on cable tray side rails with inside flanges (requiring inside tray mounting) and outside flanges; LCCF clamps are for use exclusively on inside flanges.

LCC/LCCF cable tray conduit clamps:

- Provide a means of clamping metal conduit (rigid steel or aluminum, IMC and EMT) to cable tray to provide for the exit of power and/or control cables from tray
- Provide a means to firmly bond exit conduit to cable tray for best grounding continuity
- Provide strong mechanical support for exit conduits and cables
- Can be used indoors or outdoors, wherever cable tray systems are installed
- Facilitate the safe exit of cables from tray insure protection of cables from damage

Features:

- Quick and easy installation low installed cost. Merely tighten clamp nut and/or set screw(s)
- Swivel hook clears conduit. No disassembly required for installation
- No drilling or welding necessary for installation
- Provides superior ground continuity between conduit and cable tray
- Clamps conduit at any angle with relation to tray facilitates wire pulling, minimizes conduit bending
- Malleable iron body provides great strength
- Knurled body has no-slip surface for conduit and tray positive grip assured
- Compact design has low profile minimum tray space required for assembly
- Design accommodates all popular types of cable tray
- Accommodates wide range of conduit sizes 1/2" through 4"

LCCF features

- Outside mounting facilitates inside rail installation
- · Adjustable hook assures positive grip on inside rail
- Accommodates 3/4" through 13/4" wide flange

Certifications and Compliances:

• UL Standard: 467 (Grounding and Bonding Equipment)

Standard Materials:

- Body cast iron
- Hook steel
- Set screws and clamping nut steel
- Hook cap vinyl

Standard Finishes:

- Cast iron electrogalvanized and aluminum acrylic paint
- Steel zinc electroplate
- Vinyl natural

Conduit Size Ranges:

• 1/2" to 4"

LCC LCCF





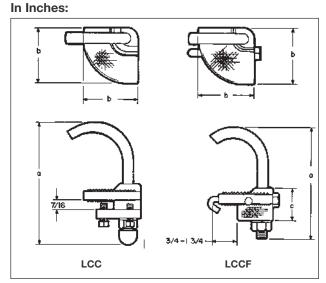
For use with outside rail tray

For use with inside rail tray

Ordering Information

Conduit Size	Cat. #	Cat. #	
1/2	LCC1	LCCF1	
3/4	LCC2	LCCF2	
1	LCC3	LCCF3	
1 1/4	LCC4	LCCF4	
11/2	LCC5	LCCF5	
2	LCC6	LCCF6	
21/2	LCC7	LCCF7	
3	LCC8	LCCF8	
31/2	LCC9	LCCF9	
4	LCC010	LCCF010	

Dimensions



	LCC		LCCF		
Conduit Size	а	b	а	b	С
1/2	33/16	111/16	31/8	15/8	1 11/32
3/4	37/16	1 11/16	311/32	1 ⁵ / ₈	1 11/32
1	39/16	1 11/16	319/32	15/8	1 11/32
11/4	4	111/16	315/16	15/8	1 11/32
11/2	413/16	211/16	43/4	23/4	1 11/16
2	55/16	211/16	51/4	23/4	1 11/16
21/2	5 ¹³ / ₁₆	211/16	53/4	23/4	111/16
3	613/16	33/4	63/4	311/16	23/16
31/2	75/16	33/4	71/4	311/16	23/16
4	713/16	33/4	73/4	311/16	23/16

Applications:

Cable tray grounding conductor clamps are designed for use in heavy industrial applications:

- To provide a means for securely attaching a grounding conductor to cable tray to maintain grounding continuity for the entire cable tray system
- To provide protection of equipment through a reliable method for carrying ground fault currents
- To meet UL and NEC Code requirements
- For installation indoors or outdoors, with most types of cable trays with inside or outside flanges

Features:

- Meets requirements of NEC Code Article 318-7 for grounding and bonding
- Quick and easy installation low installed cost. No drilling or special tools required.
- Accommodates solid (where suitable) or stranded aluminum or copper grounding conductors in sizes from #6 to ²/₉
- Set screw bonds the clamp to the tray and another set screw securely attaches the grounding conductor to the clamp – outstanding pull-out and vibration resistance
- Design accommodates most popular types of cable tray
- Mechanical device can be easily inspected
- Malleable iron body provides high strength

Certifications and Compliances:

• UL Standard: 467 (Grounding and Bonding Equipment)

Standard Materials:

- Body malleable iron
- Set screws steel

Standard Finishes:

 Malleable iron and steel – electrogalvanized

Ordering Information



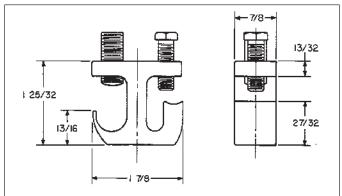
Ground Wire Size	Cat. #
#6 to ² / ₀	TGC40



TGC Clamp installs on cable trays with inside or outside flanges

Dimensions

In Inches:



Applications:

THRU-WALL BARRIER cable/conduit sealing device is used wherever there is a need to seal cables or conduits penetrating fire-or non-fire-rated walls, ceilings, floors, bulkheads or decks. For non-fire-rated walls, ceilings, floors, bulkheads or decks, THRU-WALL BARRIER also restricts water and dust and will help contain treated air. THRU-WALL BARRIER is designed:

- To provide a seal for cable/conduit penetrations through masonry, concrete or steel; to restrict the entrance of contaminants through cable/conduit penetrations into clean areas
- For use with most types of power, instrument and control cables as well as conduits
- To be used indoors or outdoors, in new construction or existing structures

Features:

System

- Few parts required to seal a wide range of diameters of cables or conduits
- Easy and fast installation, using factory assembled components
- High degree of flexibility with interchangeable sealing block assemblies and a selection of different sizes of frames

Mounting frame

- One-piece cast malleable iron or steel mounting frame can be cast into concrete during wall construction, grouted in masonry surfaces or welded into steel bulkheads at any time
- Retrofit frame allows for easy installation of frame where cables/conduit are already installed
- Available in sizes to accommodate a wide range of cable tray sizes and loadings, including single and multiple layers of cables for power or instrument applications
- Cast keyways in mounting frame align and position sealing block assemblies
- Frames can be installed in wall such that sealing block assemblies can be inserted in either horizontal or vertical position

Sealing block assembly

- Specially formulated elastomeric material between cast malleable iron pressure plates protects cable from mechanical damage; provides high pull-out resistance and positive cable separation; expands during fire to seal any voids left by burned cable insulation
- Interchangeable sealing block assemblies fit all THRU-WALL BARRIER mounting frames
- Cast stops on front pressure plate prevent sealing block assembly from slipping through mounting frame during installation
- Assemblies are offered for all cable/conduit outside diameters from .250" to 4.500" (6.4 mm to 114.3 mm); cables with diameters less than .250" can be accommodated – consult Eaton's Crouse-Linde
- Sealing block openings will accommodate undersize and out-of-round cable
- Each sealing block assembly seals multiple cables/conduits; compact design permits close nesting of cables, saving space
- Reducers permit sealing block assemblies to accept cables with smaller O.D. than the specified range
- Plugs are used to fill unused openings in sealing block assemblies; blank sealing block assemblies fill unused spaces in mounting frames, providing for future expansion



Certifications and Compliances:

- ASTM Standard E-119
- NFPA 251
- UL Classification per UL Standard 1479
- USCG Acceptance consult Eaton's Crouse-Hinds
- NAVSEA Approval Electric Plant Installation Standard Methods No. S9300- AW-EDG-010/EPISM – TWFS/TWBS assemblies

Standard Materials:

Mounting frame:

TWF, TWFR – cast malleable iron TWFS – cast carbon steel, ASTM A27 Grade 60-30

- Pressure plate cast malleable iron
- Sealing material special elastomeric material
- Clamping hardware steel

Standard Finishes:

- Malleable iron and hardware electrogalvanized
- Steel aluminized weldable paint
- Special elastomeric material natural

Easy three step installation



 Cast, grout or weld the onepiece mounting frame into masonry or steel surface.



3. Position cables/conduit, insert factory assembled sealing blocks into keyways in mounting frame, and tighten nuts on clamping hardware to effect the seal.



2. Feed cables/conduit through the frame.

TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Sealing Block Assemblies & Mounting Frames Ordering Information

TWB Sealing Block Assemblies

TWB sealing block assemblies are offered for cable/conduit outside diameters (O.D.) from .250" to 4.500" (6.4 mm to 114.3 mm). Cables with diameters less than .250" can be accommodated – consult Eaton's Crouse-Hinds. Each assembly opening will accommodate a .250" (6.4 mm) O.D. range. When clamping hardware is tightened, the elastomeric material is uniformly compressed around all cable/conduits for a completely tight fit.

Sealing block assemblies are offered for use in marine applications. Each assembly has the required lubrication and sealing gaskets to meet U.S. Navy Hydrostatic Pressure Test Requirements. Assemblies for marine applications are available for cable/conduit outside diameters (O.D.) from .250" (6.4 mm) through 3.500" (88.9 mm). To order, add suffix S to TWB sealing block assembly Cat. No. Example: TWBS4036.



TWB2063

Depending on opening size range, a standard sealing block assembly will seal from one to eleven cables

Opening Size Range	ln. mm)–.500 –12.7		00–.750 2.7–19.1	.750–1.000 19.1–25.4	1.000–1.250 25.4–31.8	1.250–1.500 31.8–38.1	1.500–1.750 38.1–44.5	1.750–2.000 44.5–50.8	2.000–2.250 50.8–57.2	2.250–2.500 57.2–63.5
No. Openings In Block		11	11 Added*		11 Added*	6	5	4	3	3	3	2
Sealing Block Assembly Cat. #			B2111		VB2062 VB2112	TWB2063	TWB3054	TWB3045	TWB30355	TWB4036	TWB40366	TWB5027
Frame Spaces Required		2	1	2	2	2	3	3	3	4	4	5
Plug Cat. #		TW	'P1			TWP3		TWP5		TWP6		TWP7
Reducer Cat. # §		_		TV	VR2	TWR3	TWR4	TWR5	TWR55	TWR6	TWR66	TWR7

TWF Mounting Frames

TWF(S) mounting frames may be installed either horizontally or vertically. TWFR retrofit frames are used wherever cables/conduits are already installed through a fire- or non-fire-rated wall, floor or ceiling. They are designed with a removable section to permit installation around cables/conduits. TWFR retrofit frames can be grouted into walls, floors, or ceilings, or welded into steel bulkheads or decks. TWFR retrofit frames will perform in the same manner as the one-piece TWF(S) frames.

TWFS steel mounting frames are welded directly into steel bulkheads, decks and prepared sleeves. For marine applications, keeper bars are provided to securely hold TWBS sealing block assemblies in position when installed.









TWF12

No. of Spaces Retrofit **Cast Steel** Available Frame Cat. # Frame Cat. # Frame Cat. # TWF6 TWFR6 6 10 TWF10 TWFR10 **TWFS10** TWF12† 12 TWFR12† **TWFS20** 20 **TWF20** TWFR20 24 TWF24 TWFR24 30 **TWF30** TWFR30 **TWFS30** †Includes removable partition.

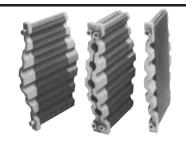
†For 3.5" - 4" cable/conduit – use TWB7011010 assembly and reduce down using TWR reducers.
*Catalog # TWB1111 and TWB2112 are used between TWB2111 and TWB2062 in cases where the number of cables to be sealed in .250-.750 range exceeds the number of openings in

Standard assemblies. Use as many of these higher density assemblies as needed, sandwiched between halves of a standard assembly. §TWR reducers match TWB sealing block assemblies shown in column above Cat. No. and reduce openings to accept cable size ranges shown in adjacent column to the left (in direction of

Crouse-Hinds by F.T.N

4F TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Plugs, Reducers, Closure Cover Kits, Anchors & Lubricant Ordering Information



TWB2112 TWB2062

TWP Plugs



TWP plugs will close any unused openings in sealing block assemblies. See table for plug catalog numbers which match specific sealing block assemblies.

TWR Reducers



TWR reducers will reduce openings by .250" (6.4 mm) in sealing block assemblies. See table for reducer catalog numbers which match specific sealing block assemblies. More than one reducer can be used in a single opening.

It is possible to increase cable fill density with double-sided sealing block assemblies (TWB1111 and TWB2112) sandwiched between halves of a standard assembly.

2.500–2.750 63.5–69.9	2.750–3.000 69.9–76.2	3.000–3.250 76.2–82.6	3.250–3.500 82.6–88.9	3.500–4.250† 101.6–108.0	4.250–4.500 108.0–114.3	Blank – N Openings	-
2	2	2	2	1	1	None	None
TWB50277	TWB5028	TWB60288	TWB6029	TWB7011010	TWB70111	TWB1	TWB3
144530277	1445020	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1440025	1467011010	111111111111111111111111111111111111111	TWE	11100
5	5	6	6	7	7	1	3
TWP7	TWP8		TWP9	TWP10	TWP11		_
TWR77	TWR8	TWR88	TWR9 TWR99	TWR1010 TWR10	TWR11		_

TWB Closure Cover Kits

TWB closure cover kits offer an optional method to close TWF frames installed for future expansion or those that are abandoned. Closure cover kits include two covers clamped to opposite sides of the frame with hardware provided. The insulating material provided is sandwiched between the two covers to maintain the fire rating of the assembly. See table below for closure kit catalog numbers.

No. of Spaces Available	Closure Cover Kit Cat. #·
6	TWB600‡
10	TWB1000
12	TWB600‡
20	TWB2000
24	TWB2400
30	TWB3000

*TWB closure cover kits are not designed to provide a watertight seal in marine/shipboard applications or washdown areas. One kit seals one unused frame opening of same size. Example: use one TWB2000 kit to seal one TWF20, or TWFR20 frame.
‡Use two TWB600 kits to seal one TWF12 or TWFR12 frame opening.

TWK Anchors

TWK anchor assemblies are used to attach mounting frames to wall, ceiling or floor when grouting in frames.

Mounting Type	Cat. #
Flush	TWK1
Recessed	TWK2

TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Ordering Example A

Product Information

Selecting and specifying THRU-WALL BARRIER components is a simple procedure. Primary components for the THRU-WALL BARRIER consist of TWF mounting frames in various sizes and TWB sealing block assemblies for cable/conduit outside diameters (O.D.) in 1/4-inch increments from .250" to 4.500" (6.4 mm to 114.3 mm). Cables with diameters less than .250" can be accommodated – consult Eaton's Crouse-Hinds.

Cable/conduit sizes can be mixed within a sealing block assembly by inserting TWR reducers to accommodate smaller diameters. The use of reducers can decrease the number of sealing block assemblies required. More than one reducer can be used in a single opening.

Another way to increase density is to use TWB1111 and TWB2112 sealing block assemblies wherever there is a large number of cables/conduits in sizes ranging from .250" to .750".

TWB2112



TWB2062

TWB2062

Shown here is a double-sided sealing block assembly (TWB2112) sandwiched between halves of a standard sealing block assembly (TWB2062). Additional double-sided sealing block assemblies may be used to accommodate larger quantities of cables or conduits.

Unused sealing block openings must be closed with TWP plugs. Blank sealing block assemblies TWB1 and TWB3 are used to fill each unused space in the mounting frame and permit future expansion of the system. Typical practice is to include space allowance of 20 to 50% for future expansion. TWB closure kits are used to seal entire frames and permit future system expansion.

Specifying & Ordering

The selection of components is based on the quantity and sizes of cables or conduits going through the penetrations. Once these are known, the sealing block assemblies and frames can be selected.

Step 1. Group cables/conduits by outside diameter (O.D.) and rank from the largest to the smallest.

Step 2. Keeping in mind that sealing block assemblies are available in one-quarter inch increments, group cables/conduits that fall within the same sealing block assembly O.D. size range.

Step 3. Starting with the largest cable/ conduit O.D., select the sealing block assemblies required. All openings in each sealing block assembly must be filled. Specify TWR reducers to accommodate smaller diameter cables where possible and TWP plugs to fill openings not used.

Step 4. Total the frame spaces required for the specified sealing block assemblies and select an appropriate mounting frame(s). Frames are available in 6-, 10-, 12-, 20-, 24- and 30-space sizes. Keep future expansion requirements in mind when specifying frame. Specify blank sealing block assemblies to fill unused mounting frame space and TWB closure cover kits to fill unused frames.

Step 5. Check specification/order to be sure it includes 1) frames, 2) sealing block assemblies, 3) plugs and 4) reducers.

Ordering Example A:

Cable tray size: 24"

Cables specified: 5 power cables – sizes ranging from 1.960" to 2.200" O.D.

Spare capacity required: 50%

Step 1. Group cables by O.D. and rank from largest to smallest.

	Cable Qty.	Cable O.D.
	4	2.200
	1	1.960
Total	5	

Step 2. Group cables that fall within the same sealing block assembly size.

	Cable Qty.	Sealing Block O.D. Range	
	4	2.000-2.250	
	1	1.750-2.000	
Total	5		

Step 3. Starting with the largest cable O.D., select the quantity of sealing block assemblies required. Specify TWR reducers to accommodate smaller

diameter cables where possible and TWP plugs to fill openings not used. (See Example A diagram.)

Note: In the example, one TWR66 reducer is required to accommodate the cable with 1.960 O.D. and one TWP6 plug is required for the unused opening.

Step 4. Total the frame spaces required for sealing block assemblies and select appropriate size mounting frame. Factor in spare capacity required for future expansion.

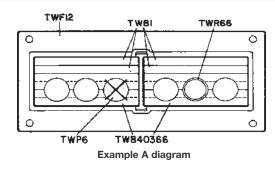
Total frame spaces required	8
Specification requires 50% spare capacity	4
Total spaces	12

Selection: One TWF12 mounting frame with capacity of 12 spaces. Four TWB1 blank sealing block assemblies to fill unused frame space. (Choice of frame could vary based on future expansion needs and/or specific cable arrangement.)

Sealing Block Assy Cat. #	O.D. Range	Number of Openings	Cables to be Sealed	Number of Openings	Cables to be Sealed
TWB40366	2.000-2.250	3	3	_	4
TWB40366	2.000-2.250	3_	2	1	4
	Totals	66	5	1	8

Step 5. Bill of materials for specification/order should read:

- (1) TWF12
- (2) TWB40366
- (4) TWB1
- (1) TWR66
- (1) TWP6



4F TW Series THRU-WALL BARRIER® **Cable/Conduit Sealing Device**

Ordering Example B Dimensions

Ordering Example B:

Cable trav size: 24"

Cables specified: 6 power cables - sizes ranging from 2.140" to 2.180" O.D. 31 control cables - sizes ranging from .550" to .945" O.D.

Spare capacity required: 25%

Step 1. Group cables by O.D. and rank from largest to smallest.

Cable Qty.	Cable O.D.
4	2.180
2	2.140
1	.945
4	.890
7	.700
9	.637
10	.550
37	
	4 2 1 4 7 9

Step 2. Group cables that fall within the same sealing block assembly size.

	Cable Qty.	Sealing Block O.D. Range
	6	2.000-2.250
	5	.750-1.000
	26	.500750
Total	37	

Step 3. Starting with the largest cable O.D., select the quantity of sealing block assemblies required. Specify TWR reducers to accommodate smaller diameter cables where possible and TWP plugs to fill openings not used. (See Example B diagram.)

Sealing Block Assy Cat. #	O.D. Range	Number of Openings	Cables to be Sealed	Openings Not Used	Frame Spaces Required
TWB40366	2.000-2.250	3	3	_	4
TWB40366	2.000-2.250	3	3	_	4
TWB2063	.750-1.000	6	5	1	2
TWB2062	.500750	6	6	_	2
TWB2112	.500750	11	11	_	2
TWB2112	.500750	11	9	2	2
	Totals	40	37	3	16

Note: In this example, two TWB2112 sealing block assemblies are sandwiched between two halves of a TWB2062. This dramatically increases cable density minimum frame space. One TWP3 plug is required for unused opening in TWB2063 and two TWP1 plugs are required for unused openings in the TWB2112.

Step 4. Total the frame spaces required for sealing block assemblies and select appropriate size mounting frame(s). Factor in spare capacity required for future expansion.

Total frame spaces required	16
Specification requires 25%	4
spare capacity Total	20

Selection: Two TWF10 (or one TWF20) mounting frames with total capacity of 20 spaces. One TWB3 and one TWB1 blank sealing block assembly to fill unused frame space. (Choice of frame could vary based on future expansion needs and/or specific cable/conduit arrangement.)

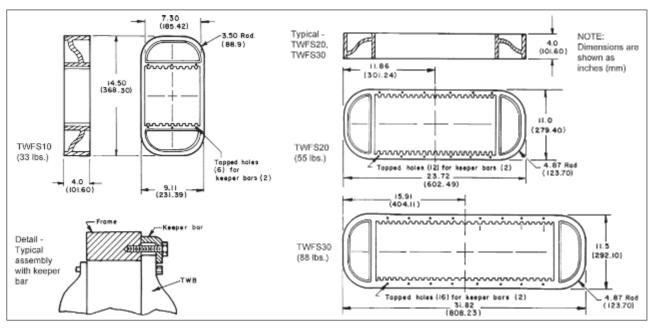
Step 5. Bill of materials for specification/order should read:

- $(\dot{2})$ TWF10 or (1) TWF20
- TWB40366 (2)
- (1) TWB2063
- TWB2062 TWB2112
- (1) (2) (1) TWP3
- TWP1
- (2) TWB3
- TWB1
- TWPI

Example B diagram

*For TWFS mounting frame hole dimensions, contact Eaton's Crouse-Hinds ECM field representative or

Dimensions In Inches:

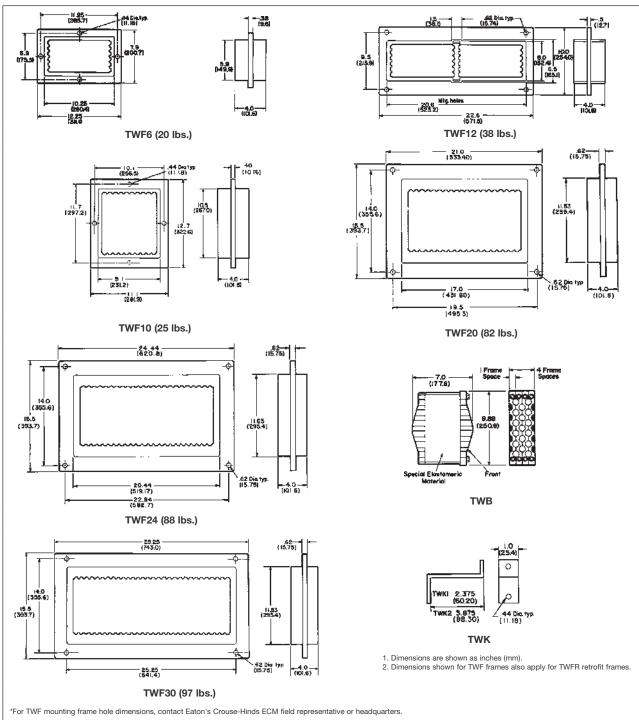


TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device

Dimensions*

Dimensions

In Inches:



4F Link-Seal® Devices

Environmental Seal for Conduit Passing Through Concrete Walls, Floors, or Ceilings

#

Link-Seal Devices Applications:

 Eaton's Crouse-Hinds Link-Seal® is the quick, economical way to seal around conduit in concrete walls, floors and casings. Link-Seal is a modular mechanical seal used for any type of penetration.

Features and Benefits:

- Saves time and money Link-Seal installs in up to 75% less time than competition products
- Positive Hydrostatic Sealing properly installed, Link-Seal is rated at 20 psig (40 feet of head), which exceeds the performance requirements of most applications
- Environment Seals Link-Seal environmental seal is designed for long life and use as a permanent seal. Seal elements are specially compounded to resist aging, ozone, sunlight, water and a wide range of chemicals
- Fire Seals for fire protection in floor and wall penetrations Link-Seal is Factory Mutual approved
- Corrosion protection where installation against galvanic corrosion (or electrolysis) is required, Link-Seal provides complete separation pipe and casing. Metal-to-metal contact is eliminated
- Compensates for misalignment Link-Seal allows for some angular and off-center conduit conditions and still seals effectively
- Absorbs shock, sound and vibration this inherent benefit of Link-Seal helps reduce conduit failure due to fatigue and threaded connections

Standard Materials:

Rubber Seal Elements:
EPDM (Black) – Environmental Seals
Silicone (Grey) – Fire Seals

• Pressure Plates:

Glass Reinforced Nylon – Environmental Seals

Steel w/Zinc Dichromate Plate - Fire Seals

• Fasteners:

Carbon Steel, Zinc Dichromate Plate – Environmental Seals

316 Stainless Steel – Environmental with Option S316

Carbon Steel w/Zinc Dichromate - Fire Seals

Environmental Conduit Seal

Ordering Information:

It's easy. Locate the conduit size and type you are installing in the columns on the left. Then locate the seal and sleeve part numbers under the installation method you've selected. No sleeve is needed for cored or cast hole installation.

Cored or Cast Hole Method:

Note the appropriate hole diameter and select the seal part number. Example: For ³/₄" EMT conduit through a cored hole – Core a 2" diameter hole and install the conduit using Link-Seal part number I SA200-C-04

Sleeve Methods:

Select either the plastic or metal sleeve. Both types of sleeves are designed to be cast into concrete walls or floors. Sleeves are ordered separately. Remember to add the wall or floor thickness to the steel sleeve part number to insure the sleeve is provided in the proper length. Plastic sleeves are a standard 16 long and can be modified in the field.





Materials:

The standard product for environmental conduit seals is made from EPDM supplied with steel bolts and nuts with a zinc dichromate finish. These seals are suitable for use in water, direct ground burial and atmospheric conditions. They provide electrical insulation where cathodic protection is required. EPDM rubber is resistant to most inorganic acids and alkalis, and some organic chemicals (acetone, alcohol, ketones).

Options:

To order the standard product with 316 stainless steel bolts and nuts, for corrosive environments, replace the "C" in the seal catalog number with "S316". For example, a ½" seal for rigid steel conduit for a cored hole is an LSA200-C-04; ordered with stainless steel bolts and nuts the catalog number becomes LSA200-S316-04.

Link-Seal® Devices

Environmental Seal for Conduit passing through Concrete Walls, Floors or Ceilings

Ordering Information - Environmental Conduit Seal

Conduit Nominal Size	Conduit Type*	Conduit Actual O.D. (inches)	Cast/Cored Hole Dia. (inches)	Seal for Cast/Cored Hole Cat. #	Plastic Sleeve Cat. #	Seal for Plastic Sleeve Cat. #	Steel Sleeve Cat. #	Seal for Steel Sleeve Cat. #
1/2"	EMT	.706	2.000	LSA275 C 04	LS CS 2 16	LSA200 C 04	WS2 15 ①	LSA275 C 04
1/2"	IMC	.815	2.000	LSA200 C 04	LS CS 2 16	LSA200 C 04	WS2 21 ①	LSA200 C 04
1/2"	RSC	.840	2.000	LSA200 C 04	LS CS 2 16	LSA200 C 04	WS2 21 ①	LSA200 C 04
3/ ₄ "	EMT	.922	2.000	LSA200 C 04	LS CS 3 16	LSA315 C 04	WS2 15 ①	LSA200 C 04
3/ ₄ "	IMC	1.029	2.500	LSA275 C 06	LS CS 3 16	LSA315 C 04	WS2 15 ①	LSA200 C 04
3/ ₄ "	RSC	1.050	2.500	LSA275 C 06	LS CS 3 16	LSA315 C 04	WS2.5 20 ①	LSA275 C 06
1"	EMT	1.163	2.500	LSA315 C 04	LS CS 3 16	LSA300 C 04	WS2.5 20 ①	LSA275 C 06
1"	IMC	1.290	3.000	LSA300 C 04	LS CS 3 16	LSA300 C 04	WS2.5 10 ①	LSA275 C 06
1"	RSC	1.315	3.000	LSA300 C 04	LS CS 3 16	LSA300 C 04	WS2.5 20 ①	LSA200 C 05
1½"	EMT	1.510	3.000	LSA300 C 04	LS CS 3.5 16	LSA315 C 05	WS3.5 22 ①	LSA315 C 05
1½"	IMC	1.638	3.000	LSA275 C 07	LS CS 3.5 16	LSA300 C 05	WS3.5 22 ①	LSA315 C 05
1½"	RSC	1.660	3.000	LSA275 C 07	LS CS 3 16	LSA200 C 06	WS3.5 22 ①	LSA315 C 05
1½"	EMT	1.740	3.500	LSA315 C 05	LS CS 3.5 16	LSA300 C 05	WS3.5 32 ①	LSA315 C 05
1½"	IMC	1.883	3.500	LSA300 C 05	LS CS 3.5 16	LSA275 C 08	WS3.5 22 ①	LSA300 C 05
1½"	RSC	1.900	3.500	LSA300 C 05	LS CS 3.5 16	LSA275 C 08	WS3.5 22 ①	LSA300 C 05
2"	EMT	2.197	4.000	LSA315 C 06	LS CS 4 16	LSA315 C 06	WS4 23 ①	LSA315 C 06
2"	IMC	2.360	4.000	LSA300 C 06	LS CS 4 16	LSA300 C 06	WS4 23 ①	LSA300 C 06
2"	RSC	2.375	4.000	LSA300 C 06	LS CS 4 16	LSA300 C 06	WS4 23 ①	LSA300 C 06
2½"	EMT/RSC	2.875	4.000	LSA200 C 09	LS CS 4 16	LSA200 C 09	WS4 23 ①	LSA200 C 09
2½"	IMC	2.857	4.000	LSA200 C 09	LS CS 4 16	LSA200 C 09	WS4 23 ①	LSA200 C 09
3"	EMT/RSC	3.500	5.000	LSA300 C 08	LS CS 5 16	LSA300 C 08	WS5 25 ①	LSA300 C 08
3"	IMC	3.476	5.000	LSA300 C 08	LS CS 5 16	LSA300 C 08	WS5 25 ①	LSA300 C 08
3½"	EMT/RSC	4.000	6.000	LSA325 C 05	LS CS 6 16	LSA325 C 05	WS6 28 ①	LSA325 C 05
3½"	IMC	3.971	6.000	LSA325 C 05	LS CS 6 16	LSA325 C 05	WS6 28 ①	LSA325 C 05
4"	EMT/RSC	4.500	6.000	LSA300 C 10	LS CS 6 16	LSA300 C 10	WS6 28 ①	LSA300 C 10
4"	IMC	4.466	6.000	LSA300 C 10	LS CS 6 16	LSA300 C 10	WS6 28 ①	LSA300 C 10
5"	RSC	5.563	8.000	LSA425 C 06	LS CS 8 16	LSA425 C 06	WS8 32 ①	LSA425 C 06
6"	RSC	6.625	10.000	LSA475 C 10	LS CS 10 16	LSA475 C 10	WS8 18 ①	LSA300 C 15

^{*}EMT – Electrical Metallic Tubing; IMC – Intermediate Metal Conduit; RSC – Rigid Steel Conduit

①Specify length of steel sleeve in inches. Example: S6-28-08 is 8" long. All plastic sleeves come in standard 16" lengths and can be field cut to desired length.

The last two digits of the seal part number indicate the number of links (and the number of bolts) per seal.

Link-Seal® Devices 4F

Fire Seal for Conduit passing through Concrete Walls, Floors or Ceilings

Fire Conduit Seal Ordering Information:

Locate the conduit size and type you are installing in the columns on the left. Then locate the seal and sleeve part number under the installation method you've selected. No sleeve is needed for cored or cast hole installation.

Cored or Cast Hole Method:

Note the appropriate hole diameter and select the seal part number. Example: For 3/4" EMT conduit through a cored hole -Core a 2" diameter hole and install the conduit using Link-Seal Part number LSA200-T-04.

Sleeve Methods:

Select the appropriate metal sleeve for the size and type of conduit being installed. The sleeve should be ordered separately. Remember to add the wall or floor thickness to the steel sleeve part number to insure the sleeve is provided in the proper length.

Materials:

The standard product for fire conduit seals is made from grey silicone supplied with steel bolts and nuts with a zinc dichromate finish. These seals are Factory Mutual approved for use as a 1-hour fire stop and can handle temperature extremes of -67°F to +400°F.

Options:

To order the fire seal for a 3-hour rating, replace the "T" in the seal catalog number with a "FS". For example, a 1/2" seal for rigid steel conduit for a cored hole is an LSA200-T-04; ordered with option FS the catalog number becomes LSA200-FS-04. A 3-hour fire seal can also be made by using two Model T's back-to-back. The Model FS is basically two Model T's back-to-back. In Model FS, a tie rod tightens both seals simultaneously - for use when only one side of an opening is accessible.

Fire Conduit Seal - Ordering Information

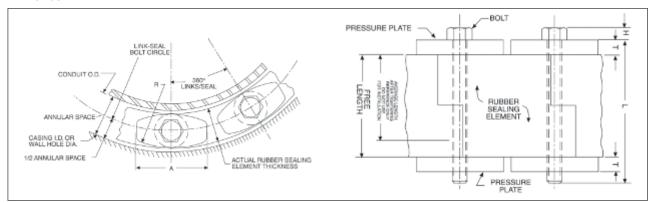
Conduit Nominal Size	Conduit Type*	Conduit Actual O.D. (inches)	Cast/Cored Hole Dia. (inches)	Seal for Cast/Cored Hole Cat. #	Steel Sleeve Cat. #	Seal for Steel Sleeve Cat. #
1/2"	EMT	0.706	2.000	LSA275 T 04	WS2 15 ①	LSA275 T 04
1/2"	IMC	0.815	2.000	LSA200 T 04	WS2 21 ①	LSA200 T 04
1/2"	RSC	0.840	2.000	LSA200 T 04	WS2 21 ①	LSA200 T 04
3/4"	EMT	0.922	2.000	LSA200 T 04	WS2 15 ①	LSA200 T 04
3/4"	IMC	1.029	2.500	LSA275 T 06	WS2 15 ①	LSA200 T 04
3/4"	RSC	1.050	2.500	LSA275 T 06	WS2.5 20 ①	LSA275 T 06
1"	EMT	1.163	3.000	LSA315 T 04	WS2.5 20 ①	LSA275 T 06
1"	IMC	1.290	3.000	LSA300 T 04	WS2.5 10 ①	LSA275 T 06
1"	RSC	1.315	3.000	LSA300 T 04	WS2.5 20 ①	LSA200 T 05
11/4"	EMT	1.510	3.000	LSA300 T 04	WS3.5 22 ①	LSA315 T 05
11/4"	IMC	1.638	3.000	LSA275 T 07	WS3.5 22 ①	LSA315 T 05
11/4"	RSC	1.660	3.000	LSA275 T 07	WS3.5 22 ①	LSA300 T 05
11/2"	EMT	1.740	3.500	LSA315 T 05	WS3.5 32 ①	LSA300 T 05
11/2"	IMC	1.883	3.500	LSA300 T 05	WS3.5 22 ①	LSA300 T 05
11/2"	RSC	1.900	3.500	LSA300 T 05	WS3.5 22 ①	LSA275 T 08
2"	EMT	2.197	4.000	LSA315 T 06	WS4 23 ①	LSA315 T 06
2"	IMC	2.360	4.000	LSA300 T 06	WS4 23 ①	LSA300 T 06
2"	RSC	2.375	4.000	LSA300 T 06	WS4 23 ①	LSA300 T 06
21/2"	EMT/RSC	2.875	4.000	LSA200 T 09	WS4 23 ①	LSA200 T 09
21/2"	IMC	2.857	4.000	LSA200 T 09	WS4 23 ①	LSA200 T 09
3"	EMT/RSC	3.500	5.000	LSA300 T 08	WS5 25 ①	LSA300 T 08
3"	IMC	3.476	5.000	LSA300 T 08	WS5 25 ①	LSA300 T 08
31/2"	EMT/RSC	4.000	6.000	LSA325 T 05	WS6 28 ①	LSA325 T 05
31/2"	IMC	3.971	6.000	LSA325 T 05	WS6 28 ①	LSA325 T 05
4"	EMT/RSC	4.500	6.000	LSA300 T 10	WS6 28 ①	LSA300 T 10
4"	IMC	4.466	6.000	LSA300 T 10	WS6 28 ①	LSA300 T 10
5"	RSC	5.563	8.000	LSA425 T 06	WS8 32 ①	LSA425 T 06
6"	RSC	6.625	10.000	LSA475 T 10	WS8 18 ①	LSA300 T 15

①Specify length of steel sleeve in inches. Example: WS6-28-08 is 8" long.
*EMT – Electrical Metallic Tubing; IMC – Intermediate Metal Conduit; RSC – Rigid Steel Conduit

The last two digits of the seal part number indicate the number of links (and the number of bolts) per seal.

Dimensions

In Inches:



Technical Information

	Rubber Sealing Element			P	ressure Pla	ate	Bolt			
Link-Seal Cat. #	Actual Thickness (inches)	Free Length (inches)	Avg. Length After Tightening (inches)	A (inches)	R (inches)	T (inches)	Hex Across Flats	H (inches)	Thread Size (inches)	L
LSA200 C	.478	13/4	1³/ ₈	11/6	21/4	5/16	M5 slotted hex	.180	M5	21/2
LSA275 C	.607	13/4	1³/ ₈	7/8	17/8	5/16	M5 slotted hex	.180	M5	21/2
LSA300 C	.687	21/2	2	11/2	21/2	7/16	1/2	7/32	5/16–5/18	31/2
LSA315 C	.807	21/2	2	17/16	21/2	7/16	1/2	7/32	5/16–5/18	31/2
LSA325 C	.875	3	23/8	31//8	2	1/2	1/2	7/32	5/16–5/18	4
LSA425 C	1.062	31/2	23/4	31/2	3	3/4	9/16	1/4	3/8-3/16	5
LSA475 C	1.562	31/2	23/4	31/2	31/2	1/2	9/16	1/4	3/8-3/16	41/2

1

Elbows, Couplings, Hubs, Grounding Devices, Plugs, Reducers, Service Entrance and Unions Hazardous and Non-hazardous

Description	Page No.
Application/Selection	see page 118
Elbows	
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FE / FT Series	see page 122
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Grounding Devices, Straps, Clamps	
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HUB Series	see page 133
Pipe Plugs	
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F Series	see page 135
Unions	
Non-Expansion	
UNA Series	see page 121
UNF Series	see page 120
UNL Series	see page 120
UNY Series	see page 120
Expansion	
UNF Series	see page 123
UNY Series	see page 123
UNFL Series	see page 123
UNYL Series	see page 123
Nipples	
NOR Series	see page 126
Conduit Liners	
LNR Series	see page 136

5F **Elbows, Couplings, Hubs, Grounding** Devices, Plugs, Reducers, Service

Entrance and Unions

Application and Selection

Applications:

Service entrance heads, elbows, unions, couplings, grounding receptacle and stud and grounding straps with clamps are the miscellaneous fittings needed to complete an electrical conduit system from the overhead service entrance to machinery, lighting fixtures and/or final electrical outlets. These fittings are installed in conduit systems within non-hazardous areas to:

- Plug
- Connect
- Reduce
- Terminate
- · Change direction
- Ground

Use in Hazardous Areas:

• Most of the items shown above are also suitable for hazardous areas (see specific listings for compliance information).

Considerations for Selection:

Service Heads:

- Size required determine from size and number of conductors in service and conduit or mast size.
- Type required (threaded, slip fit, clamp) - determine from conduit used with service head.

Elbows, Unions, Reducers, Couplings and Grounding Receptacles/Connectors:

- Size required determine from conduit
- Type required determine from intended function in system (i.e. male and female thread for connecting conduit to outlet box etc.)
- Material and finish required determine from environmental conditions (corrosive fumes, buried in concrete, etc.)

Options:

Description	Suffix
Corro-free™ epoxy powder coat	S752

Series	Page	Series	Page	Series	Page
F	see page 135	UNL	see page 120	XD	see page 129
680		0			
GCT	see page 134	UNF	see page 120	XJG	see page 130
GC	see page 134	EL / FE	see pages 121-122	RE	see page 124
GCR	see page 134	LNR	see page 136	REA / AMN	see page 124
5					
UNYL	see page 123	PLG	see page 124	REC	see page 124
	see pages				
EC	127–128			HUB	see page 133
	100 A	AND DESCRIPTION OF THE PARTY OF			
XJGD	see page 132			XJG-EMT	see page 131

Elbows, Couplings, Hubs, Grounding Devices, Plugs, Reducers, Service Entrance and Unions

Quick Selector Chart

Series	Description	Size Range	Conduit Type	Standard Materials
XD	Expansion/deflection coupling	1" to 6"	Threaded rigid	Feraloy® iron alloy hubs, neoprene outer jacket, tinned copper grounding strap
F	Threaded service entrance head	½" to 4" conduit	Threaded rigid	Copper-free aluminum
F	Clamp type service entrance head	3/4" to 2" conduit	Threadless rigid or EMT	Copper-free aluminum
GCT	Ground connector and stud	.312" to .406"	Used to provide "quick connect" static electricity grounding connections with portable cable	Bronze connector body; aluminum cable clamp; brass stud
GC100	Grounding strap	50' coil	Used for bonding and grounding	Flexible copper, tinned
GCR	Grounding receptacle	3/4" threaded grounding rod	Used to provide static electricity grounding connection	Bronze body, cap and chain; brass grounding stud
GC102	Grounding clamp	Adjustable	Used as clamp for GC100	Brass
HUB	Conduit hub	½" to 4"	Threaded rigid	Steel or Feraloy iron alloy
UNL	Union, 90° angle; for connecting conduit to cast boxes	1/2" - 1/2" to 3/4" - 3/4"	Threaded rigid	Feraloy iron alloy
UNY	Union, male; for connecting conduit to cast boxes	½" to 6" / 20mm to 50mm	Threaded rigid	Steel or Feraloy iron alloy
UNF	Union, female; for connecting conduit to conduit	1/2" to 6" / 20mm to 50mm	Threaded rigid	Steel or Feraloy iron alloy
UNA Male	Union, 90° to 180° adjustable; for connecting conduit to boxes for conduit support	½" to 1"	Threaded rigid	Feraloy iron alloy
EL-45°	45° elbow, female	12" to 4"	Threaded rigid	Feraloy iron alloy
EL-90°	90° elbow, male; 90° elbow, female; 90° elbow, male and female	1/2" to 11/4" male; 1/2" to 21/2" female; 1/2" to 11/4" male and female	Threaded rigid	Feraloy iron alloy
FE	90° elbow, metric	20mm to 25mm	Threaded rigid	Cooper-free aluminium
RE	Reducer, threaded	½" - 1/8" to 6" - 5" / 20mm to 50mm	Threaded rigid	Steel or Feraloy iron alloy
REA / AMN	Adapter fitting	1/2" male to 3/4" female; 3/4" male to 1" female; 1" male to 11/4" female; 16mm to 63mm	Threaded rigid	Steel or Brass
REC	Reducer coupling	³ / ₄ " - ¹ / ₂ " to 5" - 4"	Threaded rigid	Feraloy iron alloy
PLG	Pipe plug, recessed head or square head	1/2" to 4" / 20mm to 63mm	Threaded rigid	Steel or <i>Feraloy</i> iron alloy or Brass
EC	Flexible coupling	½" to 4"	See catalog page 7F for details	
LNR	Conduit liner	½" to 4"	Threaded rigid & IMC	Polypropylene
XJG	Expansion fitting	1/2" to 6"	Threaded rigid or IMC	Feraloy iron alloy
XJG-EMT	Expansion fitting	1/2" to 4"	EMT	Feraloy iron alloy
XJGD	Expansion-deflection	1" to 4"	Threaded rigid	Feraloy iron alloy

Cl. I, Div. 1 & 2, Groups A, B, C, D† Explosionproof Cl. II, Div. 1, Groups E, F, G

Cl. II, Div. 2, Groups F, G

CI. III

Dust-Ignitionproof

Applications:

UNY and UNF unions are installed in threaded thickwall conduit systems:

- UNY to connect conduit to a conduit fitting, junction box or device enclosure
- UNF to connect conduit to conduit, or to provide a means for future modification of the conduit system

UNA unions are used in conduit and fitting installations when entrance angle is between 90° and 180°.

EL elbows are installed in conduit run or in box or fitting hub:

• To change direction in threaded rigid conduit run by 90°, or when terminating at a box or fitting

Features:

UNY, UNF and UNL unions have:

- · Compact design which permits assembly with a minimum of clearance to other adjacent conduit and/or equipment
- Strong and durable construction **UNA unions:**
- · Have a single clamping nut on angle, making it both a union and a connector
- · Permit conduit joints at angles between 90° and 180°

EL elbows have a smooth interior and are both strong and compact.

Certifications and Compliances:

NEC/CEC:

Class I, Division 1 & 2, Groups A, B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III EL 1/2", 3/4", 1" UNF/UNY 105, -215, -205, -305

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III UNF/UNY406, -506, -606. -706. -806.

UNL 105, -125, -215, -205

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II. Division 2. Groups F. G. Class III

EL, UNF, UNL, UNY - all sizes Class I, Division 1 & 2, Group D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

Class III UNA

• UL Standard: 1203

-905, -1005

• CSA Standard: C22.2 No. 30 †See compliances for classification of each product.

Standard Materials:

- UNY, UNF unions 1/2" to 1" steel
- UNY, UNF unions 11/4" to 6" Feraloy®
- UNL, UNA unions Feraloy iron alloy
- EL elbows Feraloy iron alloy or ductile

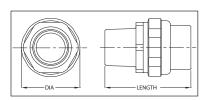
Standard Finishes:

- Steel electrogalvanized with chromate
- Feraloy iron alloy, malleable iron electrogalvanized and aluminum acrylic paint

Options:

Description Suffix Copper-free aluminum SA Not available on UNA or 5" and 6" UNY/UNF

UNY

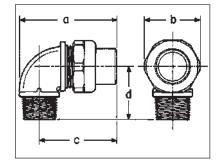


UNL



Size	Cat. #
1½ to ½	UNL105
3¼ female to ½ male	UNL125
½ female to ¾ male	UNL215
3¼ to ¾	UNL205

Dimensions In Inches:



UNY UNF Male **Female**







	D .	
•		
		-
5" ·	- 6"	

Size	Cat. #	Size	Cat. #
1/2	UNY105	1/2	UNF105
1/2 female to 3/4 male	UNY215	3/4 to 1/2	UNF215
3/4	UNY205	3/4	UNF205
1	UNY305	1	UNF305
11/4	UNY405	1 1/4	UNF405
11/4	UNY406	1 1/4	UNF406
11/2	UNY505	11/2	UNF505
11/2	UNY506	11/2	UNF506
2	UNY605	2	UNF605
2	UNY606	2	UNF606
21/2	UNY705	21/2	UNF705
21/2	UNY706	21/2	UNF706
3	UNY805	3	UNF805
3	UNY806	3	UNF806
31/2	UNY905	31/2	UNF905
4	UNY1005	4	UNF1005
5	UNY012	5	UNF012
6	UNY014	6	UNF 014

	UNY		UN	NF
Size	Length	Max. Dia.	Length	Max. Dia.
1/2	25/8	11/2	1 ¹³ / ₁₆	11/2
$\frac{3}{4} - \frac{1}{2}$	211/16	1 13/16	13/4	1 13/16
3/4	211/16	1 13/ ₁₆	13/4	1 13/16
1	3	17/8	2	17/8
11/4	311/16	23/4	21/4	23/4
11/2	41/4	31/16	25/8	31/16
2	41/4	313/16	29/16	313/16
21/2	57/16	45/16	33/16	45/16
3	5 ³ / ₄	51/16	37/16	51/16
31/2	61/2	511/16	41/8	511/16
4	65/8	63/16	41/8	63/16
5	61/8	83/16	313/16	83/16
6	61/8	95/16	313/16	95/16
UNL				
Dim.	105	125	215	205

UNL					
Dim.	105	125	215	205	
а	211/16	211/16	27/8	27/8	_
b	1 17/ ₃₂	1 13/ ₁₆	1 13/ ₁₆	1 13/ ₁₆	
С	21/16	21/16	21/4	21/4	
d	17/16	1 7/ ₁₆	15/s	15/s	

Cl. I, Div. 1 & 2, Groups C, D† Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

UNA



Male (with removable nipple)

М	al	6
IAI	aı	_

Size	Cat. #		
1/2	UNA16		
3/4	UNA26		
1	UNA36		





90° Male



45° Female



90° Female



90° Male and female

90° Male	
Size	Cat. #
1/2	EL195
3/4	EL295
1	EL395
45° Female	
Size	Cat. #
1/2	EL1
3/4	EL2
1	EL3
11/4	EL4
11/2	EL5
2	EL6
21/2	EL7
3	EL8
31/2	EL9
4	EL10

90° Fema	ale
Size	Cat. #
1/2	EL19*
3/4	EL29*
1	EL39*
11/4	EL49*
11/2	EL59*
2	EL69*
21/2	EL79
90° Male	and Female
Size	Cat. #
1/2	EL196*
3/4	EL296*
1	EL396*
11/4	EL496
*Available in co catalog numbe	pper free aluminum – add suffix SA to

Dimensions In Inches:



90° Female

90° Male and 45° Female female

EL

UNA Male Width Size Length 1/₂ 3/₄ **1** 2⁵/₈ 2⁷/₈ 3¹/₂ 45/16 4¹³/₁₆ 5¹¹/₁₆

Size	45° Female a	90° Male a	90° Female a	90° Male & Female a
3/ ₄ 1 1 ¹ / ₄ 1 ¹ / ₂ 2 2 ¹ / ₂ 3 3 ¹ / ₂	1 ²¹ / ₃₂ 1 ³ / ₄ 1 ¹⁵ / ₁₆ 2 ¹ / ₄ 2 ³ / ₄ 3 ¹ / ₆	15/8	1 ¹⁷ / ₃₂ 1 ³ / ₄ 2 2 ¹ / ₄ 4 5 6 ⁷ / ₁₆	1 ¹⁷ / ₃₂ 1 ⁵ / ₈ 1 ⁷ / ₈ 2 ¹ / ₈

†See compliances for classification of each product.

Condulet® Elbows and Tees For IEC Applications

Zone 1 Zone 2 Zone 21 Zone 22

FE and FT Series

F

Applications:

FE and FT conduit fittings are installed in hazardous areas to:

- Act as draw-in outlets especially for cables that are stiff due to large size or type of insulation
- Make 90° bends in conduit systems, allowing for a straight pull in either direction
- Provide access to wiring for maintenance and future system changes

Features:

- Maximum volume for bends within a compact overall size
- Large openings to facilitate cable pulling

Certifications and Compliances:

Type of Protection

• Ex d, DIP A21, IP67

Degree of Protection

IP67

Gas Group

• IIB

Approvals

• Ex1108U

Standard Materials:

- Body Copper-free aluminum
- Cover Brass

Standard Finishes:

Natural

Options:

Description Suffix NPT & BSP thread sizes Consult Factory



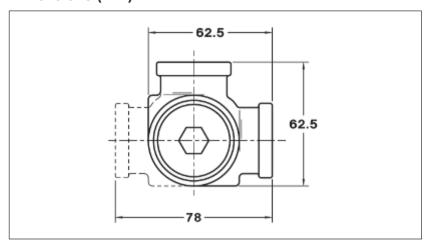


Ordering Information:

Inspection Elbows and Tees Selection

Cat. #	Туре	Entry Size (metric)
FE1	Elbow	M20 (F)-M20 (F)
FE2	Elbow	M25 (F)-M25 (F)
FT1	Tee	M20 (F)-M20 (F)
FT2	Tee	M25 (F)-M25 (F)

Dimensions (mm)



5두

UNF/UNY Expansion Unions

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof **Dust-Ignitionproof**

Applications:

UNF/UNY expansion unions are designed to be used in all threaded rigid metal† conduit systems indoors and outdoors, in hazardous locations to:

- · Connect conduit to conduit
- · Connect conduit to a junction box or device enclosure
- · Compensate for conduit cut too short
- · Allow for expansion and contraction of
- · Connect stub-ups to threaded conduit
- · Replace sections of conduit runs

Features:

- · Compact design
- Internal beryllium copper grounding spring to insure positive grounding
- Knurled surface on body and sleeve allows secure gripping with wrench.
- Steel construction for maximum
- Available in two styles short length where space is limited, long length when extra expansion is required.

Certifications and Compliances:

NEC/CEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II. Division 2. Groups F. G. Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Body and sleeve steel
- Grounding spring beryllium copper

Standard Finishes:

- Steel electrogalvanized with chromate finish
- Beryllium copper natural



UNYL



UNYL with sleeve extended



UNY Male - Short

Conduit Size	Cat. #	
1/2	UNY17	
3/4	UNY27	
1	UNY37	

UNYL Male - Long

Conduit Size	Cat. #
1/2	UNYL17
3/4	UNYL27
1	UNYL37



UNFL



UNFL with sleeve extended

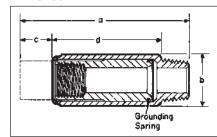
UNF

Female – Short		
Conduit Size	Cat. #	
1/2	UNF17	
3/4	UNF27	
1	UNF37	

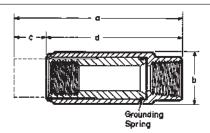
UNFL

remale - Long		
Conduit Size	Cat. #	
1/2	UNFL17	
3/4	UNFL27	
1	UNFL37	

Dimensions In Inches:



Dimension



Size	Dimension a*	b	c‡	d	
UNY					
1/2	35/16	13/16	1/2	21/16	
3/4	33/8	17/16	1/2	21/8	
1	313/16	1 11/16	5/8	21/4	
UNYL					
1/2	45/16	13/16	1	29/16	
3/4	41/2	1 7/ ₁₆	1 1/ ₁₆	211/16	
1	53/16	1 11/16	1 ⁵ / ₁₆	215/16	
	Dimension				
Size	a*	b	c‡	d	
UNF					
1/2	33//8	1 ³ / ₁₆	1/2	27/8	
3/4	37/16	1 7/ ₁₆	1/2	215/16	
1	313/16	1 11/ ₁₆	5/8	33/16	
UNFL					
1/2	43/8	1 3/ ₁₆	1	33/8	
3/4	49/16	1 ⁷ / ₁₆	11/16	31/2	
1	5 ¹ / ₈	1 11/ ₁₆	1 5/ ₁₆	313/16	

†Suitable with intermediate Metal Conduit in non-hazardous locations

^{*}Overall length at maximum expansion

Reducers, Couplings and Plugs

Cl. I, Div. 1 & 2, Groups A^{\dagger} , B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

Explosionproof

Dust-Ignitionproof

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Applications:

- RE and REC reducers are used in threaded heavy wall conduit systems.
- RE reduces conduit hubs to a smaller size.
- REA adapters enlarge drilled and tapped openings by 1 NPT size.
- REC connects two different sizes of conduit together or is used to replace a coupling and reducer in an installation.
- PLG plugs are used for closing threaded conduit hubs.

Features:

RE reducers have:

- Integral bushing which prevents damage to wires
- Full, clean cut tapered threads

REC reducers have:

- Integral bushings in both ends which prevents damage to wires
- Funnel shaped interior to guide the wires from large to small conduit, making it easy to pull wire

REA adapters have:

- Smooth integral bushing to protect wire insulation
- Knurled body for easy wrenching

PLG plugs:

- Have clean tapered threads
- Are available in two styles, flush (recessed), or square head type

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups A, B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

(see listings for specific Cat. Nos. suitable for Groups A or B)

- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- RE reducers RE1108 through RE54 in steel; all others in *Feraloy*® iron alloy
- REA adapters steel
- REC reducers REC21 and REC32 in steel; all others in Feraloy iron alloy
- PLG plugs Recessed: PLG28-PLG3: steel, PLG4-PLG10: grey iron alloy; Square Head: PLG15-PLG55: steel, PLG65-PLG105: grey iron alloy

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Steel electrogalvanized with chromate treatment

Ontions:

Optiono:	
Description	Suffix
Copper-free aluminum	SA

RE



Size	Cat. #
1/2 - 1/8	RE1108*
$\frac{1}{2} - \frac{1}{4}$	RE1208*
$\frac{1}{2} - \frac{3}{8}$	RE1308
$\frac{3}{4} - \frac{1}{2}$	RE21†
1 - 1/2	RE31†
1 - 3/4	RE32†
1 1/4 - 1/2	RE41†
11/4 - 3/4	RE42†
11/4 - 1	RE43†
1 1/2 - 1/2	RE51†
1 1/2 - 3/4	RE52†
$1\frac{1}{2} - 1$	RE53†
11/2 - 11/4	RE54†
$2 - \frac{1}{2}$	RE61†
$2 - \frac{3}{4}$	RE62†
2 – 1	RE63†
2 - 11/4	RE64†
2 - 11/2	RE65†
21/2 - 1	RE73†
21/2 - 11/4	RE74†
21/2 - 11/2	RE75†
$2^{1/2} - 2$	RE76†
3 – 1	RE83†
3 - 11/4	RE84†
3 – 1½ 3 – 2	RE85†
3 - 2 $3 - 2^{1/2}$	RE86†
$3 - 2\frac{1}{2}$ $3\frac{1}{2} - 2$	RE87†
	RE96†
$3^{1/2} - 2^{1/2}$ $3^{1/2} - 3$	RE97† RE98†
372 - 3	RE106†
4 - 2 4 - 2 ¹ / ₂	RE107†
4 – 3	RE107
4 – 3 ½	RE1001
5 – 4	RE01210
6 – 5	RE01210
0 - 0	11201412

REC

Large



Hub	Hub	
Size	Size	Cat. #
3/4	1/2	REC21†
1	1/2	REC31†
1	3/4	REC32
11/4	3/4	REC42
11/4	1	REC43
11/2	3/4	REC52
11/2	1	REC53
11/2	11/4	REC54
2	3/4	REC602
2	1	REC603
2 2	11/4	REC604
2	11/2	REC605
21/2	11/2	REC75
3	2	REC86
31/2	21/2	REC97*
4	3	REC108*
5	4	REC01210*

REA



Male Hub Size	Female Hub Size	Cat. #
1/2	3/4	REA12†
3/4	1	REA23†
1	11/4	REA34†

PLG



Recessed



Square Head

Recessed

110003304	
Size	Cat. #
1/4	PLG28†
1/2	PLG1†
3/4	PLG2†
1	PLG3†
11/4	PLG4
11/2	PLG5
2	PLG6
21/2	PLG7
3	PLG8
31/2	PLG9
4	PLG10

Square Head

Size	Cat. #
1/2	PLG15†
3/4	PLG25†
1	PLG35†
11/4	PLG45
11/2	PLG55
2	PLG65
21/2	PLG75
3	PLG85
31/2	PLG95
4	PI G105

*Not available in aluminum. †Suitable for use in Class I, Groups A and B areas.

Application:

Adapters are used to change the thread form and/or size in a wide range of BSP, NPT, and metric cable and conduit entries.

Certifications and Compliances:

Type of Protection

- Ex d, DIP A21, IP67
- Degree of Protection
- IP66/67

Gas Group

• IIC

Approvals

• Ex1108U

Standard Materials:

• Brass, nickel plated

Standard Finish:

Natural

Options:

Stainless Steel - Replace NP with SS

Size Ranges:

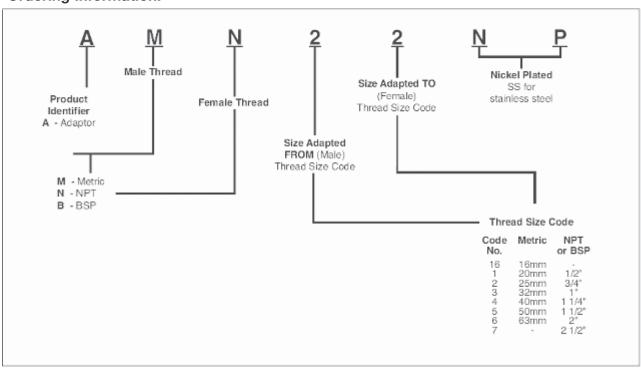
 Standard sizes listed in table below; other sizes may be available; please consult factory



Notes:

- 1. Adapters have different size thread at each end
- 2. Adapters may step up the same type of thread
- 3. Downwards adapters are Type A; upward or same size adapters are Type B
- 4. For downward adapters of same thread type, see Reducers Catalog Page
- 5. For same size and type of thread, see Unions Catalog Page

Ordering Information:



Reducers, Adapters, Plugs and Nipples for IEC Applications

Ex II 2 G EEx e II Ex II 2 G EEx d IIC Ex II 2 D

뜮

Applications:

- Reducers are used in threaded heavy wall conduit systems to reduce conduit hubs to a smaller size or to connect two different sizes of conduit together
- Adapters enlarge drilled and tapped openings by 1 NPT size
- Plugs are used for closing unused threaded conduit hubs

Features:

Reducers:

- · Integral bushing which prevents damage to wires
- Full, clean cut tapered threads
- Funnel shaped interior to guide the wires from large to small conduit, making it easy to pull wire

Adapters:

- Smooth integral bushing to protect wire insulation
- Knurled body for easy wrenching

Plugs:

• Full, clean cut tapered threads

Certifications and Compliances:

• Plugs:

Ex II 2 G EEx e II

Ex II 2 G EEx d IIC

EC-Type examination certificate LOM 02 ATEX 3035U IP67

• Reducers and Adapters:

Ex II 2 G EEx e II

Ex II 2 G EEx d IIC

Ex II 2 D

EC-Type examination certificate LOM 03 ATEX 3019U IP67

Nipples:

Ex II 2 G EEx d IIC

EC-Type examination certificate LOM 03 ATEX 3019U IP67

Standard Materials:

• Reducers, Adapters, Plugs and Nipples - Zinc Plated Steel



Ordering Information - Plugs

Thread Size	Cat. #
1/2" ISO 7/1	NOR 000 002 140 117
3/4" ISO 7/1	NOR 000 002 140 125
1" ISO 1/1	NOR 000 002 140 133
1" NPT	NOR 000 002 140 365
M20 x 1.5	NOR 000 002 140 655
M25 x 1.5	NOR 000 002 140 656
M32 x 1.5	NOR 000 002 140 657
M50 x 1.5	NOR 000 002 140 658
M60 x 1.5	NOR 000 002 140 659

Type PLG





Ordering Information - Reducers

Male Thread	Female Thread	Cat. #
3/4" ISO 7/1	1/2" ISO 7/1	NOR 000 002 190 112
1" ISO 7/1	3/4" ISO 7/1	NOR 000 002 190 188
1/2" ISO 7/1	3/4" ISO 7/1	NOR 000 002 190 675
3/4" ISO 7/1	1" ISO 7/1	NOR 000 002 190 740

Ordering Information - Adapters

0.00		7 10.0.0
Male Thread	Female Thread	Cat. #
M20 x 1.5	1/2" ISO 7/1	NOR 000 112 190 010
PG13	1/2" ISO 7/1	NOR 000 112 190 015
PG16	1/2" ISO 7/1	NOR 000 112 190 014
M20 x 1.5	3/4" ISO 7/1	NOR 000 112 190 009
M25 x 1.5	3/4" ISO 7/1	NOR 000 112 190 008
PG13	3/4" ISO 7/1	NOR 000 112 190 013
PG16	3/4" ISO 7/1	NOR 000 112 190 012
PG21	3/4" ISO 7/1	NOR 000 112 190 011
1/2" ISO 7/1	M20 x 1.5	NOR 000 112 190 002
3/4" ISO 7/1	M20 x 1.5	NOR 000 112 190 001
PG13	M20 x 1.5	NOR 000 112 190 017
PG16	M20 x 1.5A	NOR 000 112 190 016
3/4" ISO 7/1	M25 x 1.5	NOR 000 112 190 000
PG16	M25 x 1.5	NOR 000 112 190 020
1/2" ISO 7/1	PG13	NOR 000 112 190 007
3/4" ISO 7/1	PG13	NOR 000 112 190 005
1/2" ISO 7/1	PG16	NOR 000 112 190 006
3/4" ISO 7/1	PG16	NOR 000 112 190 004
M20 x 1.5	PG16	NOR 000 112 190 018
M25 x 1.5	PG16	NOR 000 112 190 019
3/4" ISO 7/1	PG21	NOR 000 112 190 003





Ordering Information - Nipples

Thread Size	Type	Cat. #
1/2" ISO 7/1	EMM 1	NOR 000 002 130 118
3/4" ISO 7/1	EMM 2	NOR 000 002 130 126
1" ISO 7/ ₁	EMM 3	NOR 000 002 130 134
1/2" ISO 7/1	EMF 1	NOR 000 002 130 217
3/4" ISO 7/1	EMF 2	NOR 000 002 130 225
1" ISO 7/1	EMF 3	NOR 000 002 130 233

5두

Couplings

1/2 "-2" Brass Construction 2-1/2-4" Stainless Steel construction only

Cl. I, Groups A, B, C, D Explosionproof Cl. II, Groups E, F, G **Dust-Ignitionproof** CI. III Wet Locations

Applications:

EC couplings are used:

• In hazardous areas where a flexible member is required in a conduit system to accomplish difficult bends, or to allow for movement or vibration of connected equipment or units

Features:

- Rugged design to withstand explosive pressure (Class I)
- Mechanical abuse
- Liquid-tight for wet locations
- For use where lack of space makes use of rigid conduit difficult
- Wire duct liner in sizes 1/2" to 2" insulates against grounds and burnthrough from short circuit
- No bonding jumpers required, metallic braid provides continuous electrical path
- ECGJH combination has two threaded male end fittings
- ECLK combination has one female union and one male threaded end fitting

Certifications and Compliances:

• NEC:

 $\frac{1}{2}$ " and $\frac{3}{4}$ " (Brass and S516) – Class I, Division 1, Groups A, B, C, D 1" to 2" (Brass and S516) - Class I, Division 1, Groups C, D

All sizes also for use in Class II, Division 1, Groups E, F, G and Class III

- UL Standard: 1203
- ATEX and IECEx ECGJH S516 Only: $\frac{1}{2}$ " and $\frac{3}{4}$ " (4" to 36" flexible length only) - Ex d IIC, IP66 1", 11/4", 11/2", 2" (4" to 36" flexible

length only) - Ex d IIB, IP66

Standard Materials and Finishes:

• End fittings:

 $^{1}\!/_{\!2}"$ to 2" – forged brass; natural 21/2" to 4" - stainless steel; natural

· Female unions:

1/2" to 1" - steel; electrogalvanized with chromate treatment 11/4" to 4" - Feraloy® iron alloy; electrogalvanized with aluminum acrylic paint

- 1/2" to 2" have bronze braid covering and flexible brass inner core; packing is woven cotton braid impregnated with asphalt
- $2^{1/2}$ " to 4" have a Type 304 stainless steel braid

Options:

Description	Suffix
All stainless steel (available for ECGJH only)	S516
For severely corrosive locations, a flexible PVC protective coating will be supplied	S758

Special coupling lengths available up to 144 inches. To order, change last two digits in any standard catalog number to the two or three digit length desired in whole inches i.e. To order a 3/4" trade size 110 inches long, use catalog number ECGJH2110.



ECGJH (Male connections both ends)

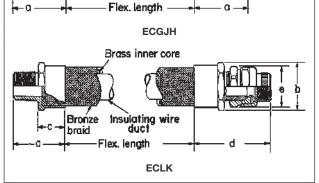
Flexible			Flexible			Flexible		
Length	۵.		Length	۵.		Length	0:	
(In.)	Size		(ln.)	Size	Cat. #	(ln.)	Size	Cat. #
4	1/2	ECGJH14	18	1	ECGJH318	27	21/2	ECGJH727
4	3/4	ECGJH24	18	11/4	ECGJH418	27	3	ECGJH827
6	1/2	ECGJH16	18	11/2	ECGJH518	27	4	ECGJH1027
6	3/4	ECGJH26	18	2	ECGJH618	30	1/2	ECGJH130
6	1	ECGJH36	18	21/2	ECGJH718	30	3/4	ECGJH230
8	1/2	ECGJH18	18	3	ECGJH818	30	1	ECGJH330
8	3/4	ECGJH28	18	4	ECGJH1018	30	11/4	ECGJH430
8	1	ECGJH38	21	1/2	ECGJH121	30	11/2	ECGJH530
10	1/2	ECGJH110	21	3/4	ECGJH221	30	2	ECGJH630
10	3/4	ECGJH210	21	1	ECGJH321	30	21/2	ECGJH730
10	1	ECGJH310	21	11/4	ECGJH421	30	3	ECGJH830
12	1/2	ECGJH112	21	11/2	ECGJH521	30	4	ECGJH1030
12	3/4	ECGJH212	21	2	ECGJH621	33	1/2	ECGJH133
12	1	ECGJH312	21	21/2	ECGJH721	33	3/4	ECGJH233
12	11/4	ECGJH412	21	3	ECGJH821	33	1	ECGJH333
12	11/2	ECGJH512	21	4	ECGJH1021	33	11/4	ECGJH433
12	2	ECGJH612	24	1/2	ECGJH124	33	11/2	ECGJH533
12	21/2	ECGJH712	24	3/4	ECGJH224	33	2	ECGJH633
12	3	ECGJH812	24	1	ECGJH324	33	21/2	ECGJH733
12	4	ECGJH1012	24	11/4	ECGJH424	33	3	ECGJH833
15	1/2	ECGJH115	24	11/2	ECGJH524	33	4	ECGJH1033
15	3/4	ECGJH215	24	2	ECGJH624	36	1/2	ECGJH136
15	1	ECGJH315	24	21/2	ECGJH724	36	3/4	ECGJH236
15	11/4	ECGJH415	24	3	ECGJH824	36	1	ECGJH336
15	11/2	ECGJH515	24	4	ECGJH1024	36	11/4	ECGJH436
15	2	ECGJH615	27	1/2	ECGJH127	36	11/2	ECGJH536
15	21/2	ECGJH715	27	3/4	ECGJH227	36	2	ECGJH636
15	3	ECGJH815	27	1	ECGJH327	36	21/2	ECGJH736
15	4	ECGJH1015	27	11/4	ECGJH427	36	3	ECGJH836
18	1/2	ECGJH118	27	11/2	ECGJH527	36	4	ECGJH1036
18	3/4	ECGJH218	27	2	ECGJH627			

Dimensions In Inches:

Brass inner core

Bronze

broid



Insulating wire

b

Cl. I, Groups A, B, C, D Cl. II, Groups E, F, G CI. III

Explosionproof Dust-Ignitionproof Wet Locations



ECLK (ECGJH provide with UNF Female union - male connection 1 end, female connection 1 end)

Flexible Length (In.)	Size	Cat. #	Flexible Length (In.)	Size	Cat. #	Flexible Length (In.)	Size	Cat. #
4	1/2	ECLK14	18	1	ECLK318	27	21/2	ECLK727
4	3/4	ECLK24	18	11/4	ECLK418	27	3	ECLK827
6	1/2	ECLK16	18	11/2	ECLK518	27	4	ECLK1027
6	3/4	ECLK26	18	2	ECLK618	30	1/2	ECLK130
6	1	ECLK36	18	21/2	ECLK718	30	3/4	ECLK230
8	1/2	ECLK18	18	3	ECLK818	30	1	ECLK330
8	3/4	ECLK28	18	4	ECLK1018	30	11/4	ECLK430
8	1	ECLK38	21	1/2	ECLK121	30	11/2	ECLK530
10	1/2	ECLK110	21	3/4	ECLK221	30	2	ECLK630
10	3/4	ECLK210	21	1	ECLK321	30	21/2	ECLK730
10	1	ECLK310	21	11/4	ECLK421	30	3	ECLK830
12	1/2	ECLK112	21	11/2	ECLK521	30	4	ECLK1030
12	3/4	ECLK212	21	2	ECLK621	33	1/2	ECLK133
12	1	ECLK312	21	21/2	ECLK721	33	3/4	ECLK233
12	11/4	ECLK412	21	3	ECLK821	33	1	ECLK333
12	11/2	ECLK512	21	4	ECLK1021	33	11/4	ECLK433
12	2	ECLK612	24	1/2	ECLK124	33	11/2	ECLK533
12	21/2	ECLK712	24	3/4	ECLK224	33	2	ECLK633
12	3	ECLK812	24	1	ECLK324	33	21/2	ECLK733
12	4	ECLK1012	24	11/4	ECLK424	33	3	ECLK833
15	1/2	ECLK115	24	11/2	ECLK524	33	4	ECLK1033
15	3/4	ECLK215	24	2	ECLK624	36	1/2	ECLK136
15	1	ECLK315	24	21/2	ECLK724	36	3/4	ECLK236
15	11/4	ECLK415	24	3	ECLK824	36	1	ECLK336
15	11/2	ECLK515	24	4	ECLK1024	36	11/4	ECLK436
15	2	ECLK615	27	1/2	ECLK127	36	11/2	ECLK536
15	21/2	ECLK715	27	3/4	ECLK227	36	2	ECLK636
15	3	ECLK815	27	1	ECLK327	36	21/2	ECLK736
15	4	ECLK1015	27	11/4	ECLK427	36	3	ECLK836
18	1/2	ECLK118	27	11/2	ECLK527	36	4	ECLK1036
18	3/4	ECLK218	27	2	ECLK627			

ECGJH and ECLK

Size	а	b	С	d	е	
1/2	17/8	11/2	1 1/8	3	19/16	_
3/4	21/16	1 ⁷ / ₈	1 3/ ₁₆	31/4	1 13/16	
1	21/2	21/8	1 1/2	35/8	1 ⁷ /8	
11/4	27/8	215/16	1 ⁷ /8	43/16	23/4	
11/2	35/16	31/2	1 ⁷ / ₈	53/16	31/16	
2	31/4	41/4	2	51/16	313/16	
21/2	3	47/16	1 5/8	51/16	45/16	
3	31/8	49/16	13/ ₄	5³/ ₈	51/16	
4	45/8	415/16	31/4	71/2	63/16	

Minimum Recommended Radius of Bend

Size	Radius	Size	Radius
1/2	10	2	16
3/4	12	21/2	16
1	14	3	18
11/4	14	4	30
11/2	16		

Applications:

XD couplings can be installed indoors, outdoors, buried underground, or embedded in concrete in non-hazardous areas. XD's are used with standard rigid conduit or PVC rigid conduit. (PVC requires rigid metal conduit nipples and rigid metal-to-PVC conduit adapters.) XD's provide a flexible and watertight connection for protection of conduit wiring systems from damage due to movement.

Typical applications include:

- · Underground conduit feeder runs
- Runs between sections of concrete subject to relative movement
- · Runs between fixed structures
- · Conduit entrances in high-rise buildings
- Bridges
- Marinas, docks, piers

Features:

- XD couplings accommodate the following movements without collapsing or fracturing the conduit, and damaging the wires it
 - 1. Axial expansion or contraction up to 3/4"
 - 2. Angular misalignment of the axes of the coupled conduit runs in any direction to 30°
 - 3. Parallel misalignment of the axes of coupled conduit runs in any direction to 3/4"
- Inner sleeve maintains constant I.D. in any position and provides a smooth insulated wireway for protection of wire insulation
- · Watertight flexible neoprene outer jacket is corrosion resistant and protects the grounding strap and the attachment points of the
- Tinned copper flexible braid grounding straps assure grounding continuity
- Stainless steel jacket clamps for strength and corrosion resistance
- Standard tapered electrical threads fit standard rigid conduit
- Integral hub bushing protects insulation of conductors

Certifications and Compliances:

• UL Standard: 514B

Standard Materials:

- Hubs Feraloy® iron alloy
- Outer jacket molded neoprene
- Jacket clamps stainless steel
- Inner sleeve molded plastic
- Grounding straps tinned copper flexible braid

Standard Finishes:

- Feraloy electrogalvanized
- Neoprene natural (black)
- Molded plastic natural (brown)

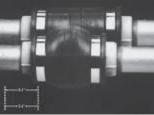
Options:

Description Suffix Hot dipped galvanized **HDG**

Size Ranges:

• 1" to 6" (Smaller sizes can be obtained by using reducing bushings)

XD



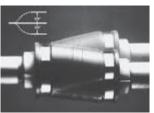


1. Axial expansion/contraction.

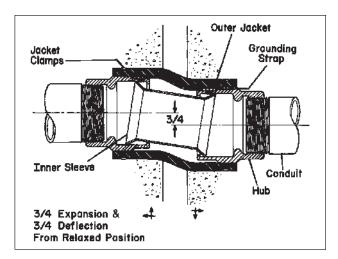
2. Angular misalignment.

Orderina Information

		Hub	
Hub	Size Cat. #	Size	Cat. #
1	XD3	3	XD8
11/4	XD4	31/2	XD9
11/2	XD5	4	XD010
2	XD6	5	XD012
21/2	XD7	6	XD014



3. Parallel misalignment.



Dimensions

In Inches:

пир		
Size	а	b
1	7	315/16
1- 1/4	7 ³ / ₈	41/4
11/2	71/4	41/2
2	71/4	415/16
21/2	71/2	55/16
3	75/8	5 ¹⁵ / ₁₆
31/2	73/4	61/2
4	7 ⁷ /8	615/16
4 5	73/4	8
6	83/8	9



XJG Conduit Expansion Joints With Internal Grounding For Rigid Metal Conduit and IMC

片 Applications:

XJG expansion couplings are used with rigid metal conduit and IMC:

- Without the need for an external bonding jumper and clamps (up to 4")
- To couple together two (2) sections of conduit subject to longitudinal movement
- In long conduit runs to permit linear movement caused by thermal expansion and contraction
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures
- Indoors or outdoors where conduit expansion occurs and there are wide temperature ranges
- In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- With optional redundant visible grounding strap

Certifications and Compliances:

• UL Standard: 514B

CSA Standard: C22.2 No. 18NEC Articles 250-77 and 300-7 (b)

NEMA FB1

Wet Locations

Standard Materials and Finishes:

Body

- Steel electrogalvanized
- Copper-free aluminum natural
- Feraloy® iron alloy electrogalvanized (5" + 6" only)

Reducer

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural

Gland Nut

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural

Packing

• Teflon® (trademark of E.I. DuPont Co.)

Washer

- Steel electrogalvanized
- Copper-free aluminum natural

Gasket

Vellum



Patented Design

Ordering Information

Conduit Size	Maximum Conduit Movement	Cat. #	Optional Bonding Jumper†	A Diameter	B Length	Bonding Jumper Length
1/2	4	XJG14	BJ14	1.75	6.75	20"
	8	XJG18	BJ18	1.75	10.75	30"
3/4	4	XJG24	BJ24	2.12	6.75	20"
	8	XJG28	BJ28	2.12	10.75	30"
1	4	XJG34	BJ34	2.43	7.25	20"
	8	XJG38	BJ38	2.43	11.25	30"
1 1/ ₄	4	XJG44	BJ44	3.19	7.56	24"
	8	XJG48	BJ48	3.19	11.56	30"
11/2	4	XJG54	BJ54	3.68	7.87	24"
	8	XJG58	BJ58	3.68	11.87	30"
2	4	XJG64	BJ64	4.75	8.25	24"
	8	XJG68	BJ68	4.75	12.25	30"
21/2	4	XJG74	BJ74	4.87	9.31	24"
	8	XJG78	BJ78	4.87	13.31	36"
3	4	XJG84	BJ84	5.37	10.00	30"
	8	XJG88	BJ88	5.37	14.00	36"
31/2	4	XJG94	BJ94	6.62	9.81	30"
	8	XJG98	BJ98	6.62	13.81	36"
4	4	XJG104	BJ104	6.62	9.81	30"
	8	XJG108	BJ108	6.62	13.81	36"
5	8	XJ128‡	_	7.64	15.50	_
6	8	XJ148‡	_	9.56	16.00	_

†XJG expansion couplings use a metallic bushing and ground springs to create a high integrity internal ground connection. External ground straps offer a redundant ground path and easy visible indication of ground. ‡XJ128 and XJ148 are not internally grounded. A pair of 36" bonding jumpers are provided with fitting.

Suffix

SA

HDG

Bushing

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural

Ground Springs

• Phosphor bronze - electrogalvanized

Ground Strap

· Braided tinned copper

U-Bolts

• Malleable iron – electrogalvanized

Options:

Description

Available in copper-free aluminum Not available on 5" and 6" sizes

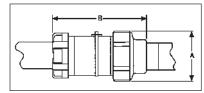
Hot dipped galvanized

Available with redundant† ground strap for visible indication of grounding – order separately (BJ Series)

Size Ranges:

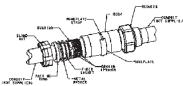
- 1/2" through 6" conduit size
- 4" and 8" maximum conduit movement

Dimensions In Inches:





XJG shown with optional bonding jumper



Crouse-Hinds

XJG-EMT Conduit Expansion Joints With Internal Grounding For EMT Conduit

Applications:

XJG expansion couplings are used with EMT Conduit:

- Without the need for an external bonding jumper and clamps
- To couple together two (2) sections of conduit subject to longitudinal movement
- In long conduit runs to permit linear movement caused by thermal expansion and contraction
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures
- Indoors or outdoors where conduit expansion occurs and there are wide temperature ranges
- In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- With optional redundant visible grounding strap

Certifications and Compliances:

- UL Standard: 514B
- CSA Standard: C22.2 No. 18
- NEC Articles 250-77 and 300-7 (b)
- NEMA FB1

Standard Materials and Finishes:

Bodv

- Steel electrogalvanized
- Copper-free aluminum natural

Reducer

- $\bullet \ ^{1\!\!}/_{\!2}"$ through 1" Steel electrogalvanized
- 11/4" through 4" Feraloy® iron alloy electrogalvanized and aluminum paint

Gland Nut

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 4" Feraloy® iron alloy electrogalvanized and aluminum paint

Packing

• Teflon® (trademark of E.I. DuPont Co.)

Washer

• Steel - electrogalvanized

Gasket

Vellum

Bushing

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 4" Feraloy® iron alloy electrogalvanized and aluminum paint

Ground Springs

• Phosphor bronze - electrogalvanized

Ground Strap

Braided tinned copper

U-Bolts

• Malleable iron - electrogalvanized

Options:

Available with redundant† ground strap for visible indication of grounding – order separately (BJ Series)

Size Ranges:

- 1/2" through 4" conduit size
- 4" maximum conduit movement

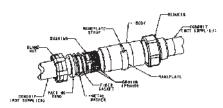
Ordering Information



Conduit Size	Maximum Conduit Movement	Cat. #	Optional Bonding Jumper	A Diameter	B Length
1/2"	4"	XJG14 EMT	BJ14	13/4"	103/4"
3/4"	4"	XJG24 EMT	BJ24	21/8"	11"
1"	4"	XJG34 EMT	BJ34	27/16"	111/2"
11/4"	4"	XJG44 EMT	BJ44	31/8"	151/4"
11/2"	4"	XJG54 EMT	BJ54	35/8"	151/2"
2"	4"	XJG64 EMT	BJ64	43/4"	151/2"
21/2"	4"	XJG74 EMT	BJ74	47/8"	183/4"
3"	4"	XJG84 EMT	BJ84	53/8"	197/8"
31/2"	4"	XJG94 EMT	BJ94	65/8"	211/4"
4"	4"	XJG104 EMT	BJ104	65/8"	211/4"



XJG shown with optional bonding jumper



 \dagger XJG expansion couplings use a metallic bushing and ground springs to create a high integrity internal ground connection. External ground straps offer a redundant ground path and easy visible indication of ground.

5F

XJGD Combination Expansion/Deflection Coupling and Expansion Joint Internally Grounded

片 Applications:

XJGD combination fittings are used with rigid metal conduit and IMC:

- To accommodate axial expansion, angular misalignment and parallel misalignment
- To couple together two (2) sections of conduit subject to longitudinal movement
- To maintain a ground connection without the need for an external bonding jumper and clamps
- In long conduit runs to prevent conduit from buckling and causing circuit failures
- Indoors or outdoors where conduit expansion occurs and there are wide temperature swings
- In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge

Certifications and Compliances:

• UL Standard: 514B

Standard Materials:

- Body, Hubs, Gland Nut, Washer, Bushing – Feraloy®
- Packing Teflon®
- Gasket vellum
- Ground Spring phosphor bronze
- Outer Jacket molded neoprene
- Jacket Clamps stainless steel
- Inner Sleeve molded plastic
- Ground Straps tinned copper braid

Standard Finishes:

• Feraloy® - electrogalvanized

Ordering Information



Hub Size	Maximum Conduit Movement	Cat. #	A Diameter	B Length
1"	4"	XJGD34	315/16"	173/4"
11/4"	4"	XJGD44	41/4"	181/8"
11/2"	4"	XJGD54	41/2"	185/8"
2"	4"	XJGD64	415/16"	191/4"
21/2"	4"	XJGD74	55/16"	203/4"
3"	4"	XJGD84	515/16"	215/8"
31/2"	4"	XJGD94	61/2"	215/8"
4"	4"	XJGD104	8"	273/4"

(Also see Myers Hubs see page 211)

Applications:

Conduit Hubs

HUB Conduit Hubs:

- Provide a convenient means for installing a threaded conduit hub on a junction box or device enclosure
- Are used to connect conduit to a sheet metal or cast enclosure
- · Are used with threaded rigid conduit or IMC, steel or aluminum; indoors or outdoors

Features:

- Smooth insulated throat provides easier wire pulling and protection for conductors during installation.
- Neoprene sealing gasket provides a watertight seal.
- · Compact design permits close spacing of conduit.
- Wide range of sizes from 1/2" to 4".

Certifications and Compliances:

- UL Standard: 514B
- CSA Standard: C22.2 No. 18
- NEC/CEC:

Class I, Division 2, Groups A, B, C, D Per NEC 501-4(b), 502-4(a) and 503-3(a)

Standard Materials:

• 1/2" to 4" malleable iron

Standard Finishes:

• Feraloy iron alloy - electrogalvanized and aluminum acrylic paint

Size Ranges:

• 1/2" to 4"

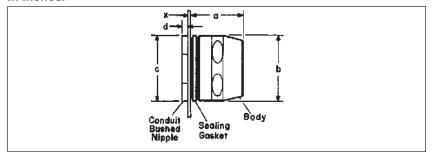
Ordering Information

Conduit Size	Cat. #
1/2	HUB1
3/4	HUB2
1	HUB3
11/4	HUB4
11/2	HUB5
2	HUB6
21/2	HUB7
3	HUB8
31/2	HUB9
4	HUB10



Dimensions

In Inches:



Cat. #	Conduit Size	а	b	С	d	x
HUB1	1/2	1	11/4	1	1/8	9/64
HUB2	3/4	11/8	1 %16	13/8	5/32	1/4
HUB3	1	1³/ ₈	17/8	1 5/8	3/16	9/32
HUB4	11/4	11/2	25/16	2	1/4	7/16
HUB5	11/2	15/8	21/2	23/8	1/4	7/16
HUB6	2	1 11/16	3	213/16	1/4	7/16
HUB7	21/2	23/16	35/8	37/16	1/4	7/16
HUB8	3	27/16	41/4	41/16	1/4	7/16
HUB9	31/2	27/16	43/4	411/16	5/16	3/4
HUB10	4	29/16	51/4	51/16	5/16	11/8

Dimension "x" is maximum wall thickness of box that will meet the requirement for three full threads engagement of nipple and fitting body when liquidtight box connector or rigid conduit hub is installed in a knockout or slip hole.

Applications:

- GCR grounding receptacles are used to provide static electricity grounding connections; particularly suited for, but not limited to, use in aircraft hangar floors and airport aprons.
- GCT ground connector and studs are used to provide "quick-connect" static electricity grounding connections with portable cable.
- GC grounding strap and clamp are suitable for bonding and grounding equipment in wiring systems, such as meter circuits, service entrance equipment, and appliances per NEC requirements.

Features:

GCR grounding receptacles have:

- Grounding stud integral with housing
- Grounding stud designed to accept standard battery clip
- Thread at bottom for attaching to ³/₄" threaded grounding rod
- Cover attached to receptacle by chain to prevent loss of cover
- · Corrosion resistant material

GCT grounding connector and studs have:

- Substantial clip tension for grounding
- Integral cable clamp to prevent cable from breaking free of connector or fraying at connector
- Lock washer on stud to maintain good electrical contact

GC strap:

- Is pliable, strong and corrosion resistant
- Assures a lasting bond. Prongs on strap clamp engage strap perforations, preventing slippage.

Certifications and Compliances:

- UL Standard: GC strap and clamps 467
- CSA Standard: C22.2 No. 41

Standard Materials:

- GCR Bronze body, cap and chain; brass grounding stud
- GCT Bronze connector body; aluminum cable clamp; brass stud
- Strap flexible copper
- Clamp brass

Standard Finishes:

- Bronze, brass, aluminum parts natural
- Flexible copper strap tinned

GCT Grounding Connector



GCT8

.312" to .406" GCT Stud*



	Thread			
Description	Size	Cat. #		
Brass	3/8 - 16	GCT2		

*Not a replacement for grounding stud in GCR receptacle.

GC Grounding Strap



Used with GC102 Strap Clamp					
Description	Cat. #				
50' coil, 1" wide	GC100				

For Static Electricity Grounding

GCR Receptacles



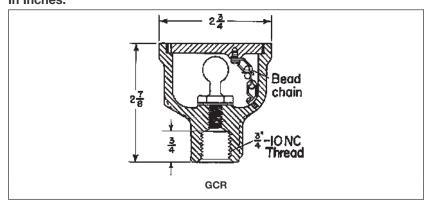
Description	Thread Size	Cat. #
With cap and	5/16 - 18	GCR210

Strap Clamp



Description	Cat. #
Brass	GC102

Dimensions In Inches:



Service Entrance Heads and Replacement Covers

Applications:

F type service entrance heads are used:

- For overhead service entrance to buildings
- With threaded rigid, threadless rigid or threadless thinwall (EMT) conduit and rigid conduit masts

Features:

Two types available:

- Threaded rigid threads to conduit.
- Threadless rigid or EMT clamps to conduit
- Available knockouts in covers allow use with variety of sizes and numbers of
 wires.
- Simple construction and easy assembly.
- Consists of only two pieces plus the insulating knockout cover.
- Easy to install.

Certifications and Compliances:

• UL Standard: 514B

• CSA Standard: C22.2 No. 18

Standard Materials:

• Copper-free aluminum

Standard Finishes:

Natural

F Service Heads Threaded Rigid







1/2" size

3/4" - 2" size

1/2 size

Conduit Size	Number and Dia. of Cover Knockouts	Cat. #	Replacement Cover Cat. #
1/2	6 - %2	F186	CF690
3/4	$2 - \frac{3}{8}$ and $3 - \frac{13}{32}$	F285	5 H
1	$2 - \frac{7}{16}$ and $3 - \frac{1}{2}$	F385	5 NS
11/4	$2 - {}^{27}/_{64}$ and $3 - {}^{5}/_{8}$	F485	5 NL
11/2	$2 - {}^{27}\!/_{64}$ and $3 - {}^{5}\!/_{8}$	F585	5 NL
2	$2 - \frac{7}{8}$, $1 - \frac{13}{16}$, $1 - \frac{11}{16}$, $1 - \frac{9}{16}$ and $1 - \frac{21}{32}$	F686	CF60
21/2	$2 - {}^{17}\!/_{16}$, $1 - {}^{17}\!/_{32}$, $1 - 1{}^{1}\!/_{64}$, $1 - {}^{61}\!/_{64}$ and $1 - {}^{55}\!/_{64}$	F766	CF707
3	$2 - 1^{7}/_{16}$, $1 - 1^{7}/_{32}$, $1 - 1^{1}/_{64}$, $1 - {}^{61}/_{64}$ and $1 - {}^{55}/_{64}$	F866	CF707
31/2	$3 - 1^{3}/_{4}$, $1 - 1^{7}/_{16}$, $1 - 1^{5}/_{16}$ and $1 - 1^{3}/_{16}$	F966	CF708
4	$3 - 1^{3}/_{4}$, $1 - 1^{7}/_{16}$, $1 - 1^{5}/_{16}$ and $1 - 1^{3}/_{16}$	F1066	CF708

Overall Dimensions of Replacement Covers for F Series Service Heads

Cat. #	Dim.
CF690	1½ dia.
5 H	1 ³¹ / ₃₂ dia.
5 NS	215/64 dia.
5 NL	219/32 dia.
CF60	33/16 dia.
CF707	$7^{13}/_{16} \times 3^{11}/_{16}$
CF708	$10^{1}/_{4} \times 4^{3}/_{4}$

Clamp Type Threadless Rigid or EMT



Conduit Size	Number and Dia. of Cover Knockouts	Cat. #	Replacement Cover Cat. #
3/4	2 - 3/8 and 3 - 13/32	F235	5 H
1	$2 - \frac{7}{16}$ and $3 - \frac{1}{2}$	F335	5 NS
11/4	$2 - {}^{27}/_{64}$ and $3 - {}^{5}/_{8}$	F435	5 NL
11/2	$2 - \frac{27}{64}$ and $3 - \frac{5}{8}$	F535	5 NL
2	$2 - \frac{7}{8}$, $1 - \frac{13}{16}$, $1 - \frac{11}{16}$, $1 - \frac{9}{16}$ and $1 - \frac{21}{32}$	F636	CF60

5F

Applications:

LNR conduit liners are installed in rigid metal conduit or IMC:

- To provide a smooth wire entry from conduit into enclosures to protect wires from abrasion as they are pulled.
- With thin wall or thick wall enclosures.
- Entering drilled and tapped openings or slip holes.
- Entering an enclosure vertically or horizontally.
- Regardless of where the conduit ends in relation to the enclosure wall.

Features:

- UL listed and CSA certified.
- No need for threaded bushings, reducers, or special machining.
- · Corrosion and heat resistant polypropylene material.
- Smooth flange providing easy wire pulling and protects conductors being installed.
- Space saving.
- Molded ribs ensure a tight fit, preventing the liner from sliding out while conductors are being pulled.
- Quick and easy to install.

Certifications and Compliances:

- NEC Article 346-8
- UL Standard 514B
- CSA Standard C22.2 No. 18
- U.S. Patent No. 5,383,688

Standard Materials:

Polypropylene

Standard Finishes:

Natural (clear)

Sizes:

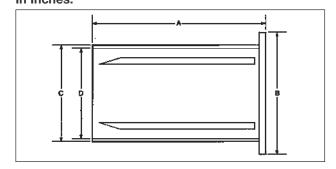
• 1/2" through 4"



Ordering Information

Cat. #	Size	Α	В	С	D	
LNR1	1/2"	13/16"	7/8"	5/8"	9/16"	
LNR2	3/4"	19/16"	1 1/8"	13/16"	3/4"	
LNR3	1"	21/16"	13/8"	11/16"	7/8"	
LNR4	11/4"	21/16"	13/4"	13/8"	11/4"	
LNR5	11/2"	29/16"	2"	1 ⁵ / ₈ "	17/16"	
LNR6	2"	29/16"	27/16"	21/16"	17/8"	
LNR7	21/2"	27/8"	27/16"	21/4"		
LNR8	3"	27/8"	39/16"	31/16"	27/8"	
LNR9	31/2"	31/16"	41/16"	39/16"	33/8"	
LNR10	4"	31/16"	49/16"	4"	37/8"	

Dimensions In Inches:



윩

Conduit Seals, Breathers and Drains Hazardous

Description	Page No		
Application/Selection	see page 138		
Breathers & Drains			
Standard			
ECD Series	see page 158		
CD Series (Non-hazardous)	see page 159		
Universal			
ECD Series	see page 158		
Sealing Compound			
Chico® A	see pages 155-156		
Chico® SpeedSeal™	see pages 155-156		
Sealing Fiber			
Chico® X	see pages 155-156		
Sealing Fittings Tool Kit			
EYS Tool Kit	see page 157		
Seals			
Drains			
EYD Series	see page 144		
EZD Series	see page 145		
EYDX Series	see page 147		
Elbows			
EYS	see page 140		
Horizontal/Vertical	. •		
ES Series	see page 149		
EYS Series	see page 140		
EYS Series with ATEX	see page 142		
EYSA Series	see page 143		
EYSX Series	see page 146		
Inspection			
EZD Series	see page 145		
Retrofit			
EYSR Series	see page 148		
Universal			
EZS Series	see page 141		
EZS Series with ATEX	see page 142		
Secondary Process Seals			
Ultra High Pressure Seal	see page 150		
Secondary Process Seal Assembly with Rupture Sensor	see pages 151-154		

Application and Selection

Applications:

Seals:

- Seals are installed in conduit runs to prevent the passage of gases, vapors or flames from one portion of the electrical installation to another through the conduit, limiting any explosion to the enclosure and preventing precompression or "pressure piling."
- While not a National Electrical Code requirement, many engineers consider it good practice to sectionalize long conduit runs by inserting seals not more than 50' to 100' apart, depending on the conduit size, to minimize the effects of "pressure piling."

Breathers:

• Breathers (vents), are installed in the top of enclosures to provide ventilation to minimize condensation in enclosures.

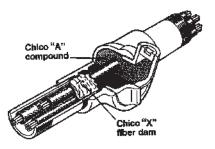
- Drains are used in humid atmospheres or in wet locations where it is likely that water can gain entrance to the interiors of enclosures or raceways. The raceways should be inclined so that water will not collect in enclosures or on seals, but will be led to low points where it may pass out through ECD drains.
- Frequently the arrangement of raceway runs makes this method impractical if not impossible. In such instances, EZD or EYD drain seal fittings should be used. These fittings prevent harmful accumulations of water above the seal.

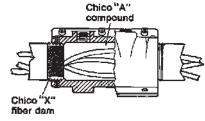
Considerations for Selection:

Seals:

- · Select the proper sealing fitting for the hazardous vapor involved; i.e., Class I, Division 1 & 2, Groups A, B, C or D.
- · Select the appropriate seal for new or retrofit installations.
- Select a sealing fitting for the proper use in respect to mounting position. This is particularly critical when the conduit runs between hazardous and nonhazardous areas. Improper positioning of a seal may permit hazardous gases or vapors to enter the system beyond the seal and permit them to escape into another portion of the hazardous area or to enter a non-hazardous area. Some seals are designed to be mounted in any position; others are restricted to vertical mounting.

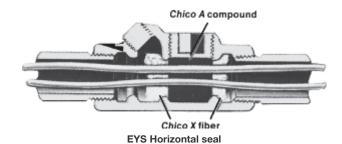
The amount of Chico® fiber and compound required for any seal is determined by volume, hub size and mounting position of the seal.





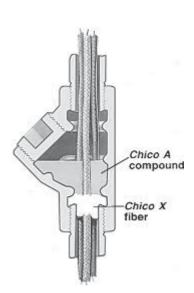
EZS Horizontal seal

EYSR Retrofit seal





- In locations which are usually considered dry, surprising amounts of water frequently collect in conduit systems. No conduit system is airtight, therefore, it may "breathe". Alternate increases and decreases in temperature and/or in barometric pressure, due to weather changes or due to the nature of the process carried on in the location where the conduit is installed, will cause "breathing," resulting in condensation and water accumulation.
- · In view of this likelihood, it is therefore good practice to insure against such water accumulations and probable subsequent insulation failures by installing breathers, drain seals, or inspection seals, even though conditions prevailing at the time of planning or installing do not indicate their need.



EYS 1 Vertical sealing

Options:

Description Suffix Corro-free™ epoxy powder coat S752

Shape Selector Chart Quick Selector Chart

Series	Page	Series	Page	Series	Page	Series	Page	Series	Page	Series	Page
EYS /	see		see	ECD	see	ECD	see		see		see
EYSA	page 140	EZD	page 145	Standard	page 158	Universal	page 158	EYSX	page 146	EYDX	page 147
		[/ •{\(\)	7	J. Harman					<u> </u>		
EYS Elbow Sea	see al page 140	ES	see page 149			EYD	see page 144	EYSR	see page 144	EZS	see page 141
				The same of the sa					0 0		

Quick Selector Chart

Series	Description	NEC Hazardous Group	For Conduit Angle		
EYS	Seal	Class I, Groups A, B, C, D Class II, Groups E, F, G	Vertical and Horizontal		
EYS ATEX	Seal	Ex II 2 G EEx d IIC	Vertical and Horizontal		
EYSA	Seal	Flameproof, Exd, IIC	Vertical and Horizontal		
EYS 29	Elbow Seal	Class I, Groups C, D Class II, Groups E, F, G	90° turn		
EYSR	Retrofit Seal/Drain Seal*	Class I, Div. 2, Groups C, D Class II, Div. 2, Groups E, F, G Class III	Vertical and Horizontal		
EYSX	Expanded Fill Sealing Fittings	Class I, Groups B, C, D Class II, Groups E, F, G	Vertical and Horizontal		
EZS	Seal	Class I, Groups C, D Class II, Groups E, F, G	All		
EZS ATEX	Seal	Ex II 2 G EEx d IIC	All		
ES	Sealing Hub	Class I, Groups C, D	Vertical		
EYD	Seal and Drain	eal and Drain Class I, Groups B, C, D Class II, Groups F, G			
EYDX	Expanded Fill Sealing Fittings and Drain	Class I, Groups B, C, D Class II, Groups F, G	Vertical		
EZD	Inspection Seal and Drain – Inspection Seal only	Class I, Groups C, D Class II, Groups E, F, G	Vertical		
ECD	Standard Breather only Drain only	Class I, Groups B, C, D Class II, Groups E, F, G Class III			
ECD	Universal Drain - Breather	Class I, Groups C, D Class II, Groups F, G			
CD	Non-hazardous Drain				
UHPS	Ultra High Pressure Seal	Class I, Div. 1, Groups B, C, D Certified to CSA Standards through QPS			
SPSR	Secondary Process Seal with Rupture Sensor	Class I, Div. 1 & 2, Groups B, C, D Class I, Zone 1 & 2 IIB + H ₂ Class II, Div. 1 & 2, Groups E, F, G			

^{*}Drain purchased separately.

Chico Sealing Compound and Fiber see pages 155-156

Cl. I, Div. 1 & 2, Groups A, B, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G **Dust-Ignitionproof** Cl. II, Div. 2, Groups F, G CI. III

Applications:

EYS and EZS sealing fittings:

- Restrict the passage of gases, vapors or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures
- Limit explosions to the sealed off enclosure
- Limit precompression or pressure "piling" in conduit systems Sealing fittings are required:
- At each entrance to an enclosure housing an arcing or sparking device when used in Class I, Division 1 and 2 hazardous locations. To be located as close as practicable and, in no case, more than 18" from such enclosures
- At each conduit entrance of 2" size or larger to an enclosure or fitting housing terminals, splices or taps when used in Class I, Division 1 hazardous locations. To be located as close as practicable and, in no case, more than 18" from such enclosures
- In conduit systems when leaving Class I, Division 1 or Division 2 hazardous locations
- In cable systems when the cables either do not have a gas/vaportight continuous sheath or are capable of transmitting gases or vapors through the cable core when those cables leave the Class I, Division 1 or Division 2 hazardous locations

Features:

EYS and EZS sealing fittings include:

- · Minimum turning radius
- · Large openings with threaded closures to provide easy access to conduit hubs for making dams
- Integral bushings in conduit hubs to protect conductor insulation from damage
- Taper-tapped hubs to ensure ground continuity

EYS sealing fittings are available for installation in either vertical only or in both horizontal or vertical positions.

EZS sealing fittings for installation at any angle; the covers with opening for sealing compound can be properly positioned to accept the compound.

Certifications and Compliances:

• NEC/CEC:

EYS1-3, 11-31, 16-36, 116-316

Class I, Division 1 & 2, Groups A, B, C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

EYS41-101, 416-1016

Class I, Division 1 & 2, Groups B, C, D

Class II. Division 1. Groups E. F. G

Class II, Division 2, Groups F, G

Class III

EYS29, 4-014, 46-0146 EZS1-8, 16-86

Class I, Division 1 & 2, Groups C, D

Class II, Division 1, Groups F, G

Class II, Division 2, Groups F, G

Class III

UL Standard: 1203

• CSA Standard: C22.2

Sealing fittings are approved for use in hazardous locations only when $Chico^{\circ} X$ fiber and Chico A sealing compound or Chico SpeedSeal are used to make the seal.

Standard Materials:

- Bodies Feraloy® iron alloy and/or ductile iron
- Plugs Feraloy iron alloy and/or steel
- Removable nipples steel

Standard Finishes:

- Feralov iron allov and ductile iron electrogalvanized and aluminum acrylic paint
- Steel electrogalvanized

Options:

Description Copper-free aluminum bodies, nipples and enclosures Suffix

Size Ranges:

1/2" - 6"

Ordering Information - EYS









Vertical female

male & female

Vertical or horizontal female

Vertical or horizontal male & female

For Sealing in Vertical Positions Only

Hub Size	Female Hub Cat. #	Male & Female Hub Cat. #	Approximate Internal Volume in Cubic Inches
1/2	EYS1*	EYS16*	1
3/4	EYS2*	EYS26*	2
1	EYS3*	EYS36*	33/4

For Sealing in Vertical or Horizontal Positions

Approximate Internal Volume in Cubic

			inches		
Hub Size	Female Hub Cat. #	Male & Female Hub Cat. #	Vertical	Horizontal	
1/2	EYS11*	EYS116*	1	1	
3/4	EYS21*	EYS216*	2	2	
1	EYS31*	EYS316*	3	33/4	
11/4	EYS41	EYS416	6	8	
11/2	EYS51	EYS516	103/4	121/4	
2	EYS61	EYS616	19	223/4	
21/2	EYS71	EYS716	251/2	30	
3	EYS81	EYS816	56	641/2	
31/2	EYS91	EYS916	72	82	
4	FVS101	FVS1016	95	110	

^{*}Available in copper-free aluminum - to order, add suffix SA to Cat. No.

Dimensions (In Inches)

EYS 10	Series	s
---------------	--------	---

EYS	16 Se	ries		EYS 116 Series			
Size	а	b	Turning Radius	а	b	Turning Radius	
1/2	39/32	11/4	15/8	311/16	11/4	15/32	
3/4	312/16	11/2	1 ²⁹ / ₃₂	311/16	1 1/2	1 1/4	
1	45/16	13/4	23/8	45/16	13/4	13/8	

EYS	6 46 Se	ries		EYS 116 Series		
11/4	51/16	23/16	123/32	51/16	23/16	123/32
1 1/2	51/2	27/16	21/16	$5^{1}/_{2}$	27/16	21/16
2	61/4	3	25/16	61/4	3	25/16
21/2	71/2	31/2	211/16	71/2	31/2	211/16
3	81/2	41/4	35/16	81/2	41/4	35/16
31/2	93/16	$4^{3}/_{4}$	37/16#	93/16	43/4	37/16#
4	93/4	51/4	311/16#	93/4	51/4	311/16#
5	111/16	61/2	419/32#			
6	121/8	75/8	511/32#			

±With cover removed.

Crouse-Hinds by F:T•N

6F

Conduit Sealing Fittings

Chico Sealing Compound and Fiber see pages 155-156

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

Explosionproof
Dust-Ignitionproof

Ordering Information - EYS





Vertical or horizontal male & female

For Sealing in Vertical or Horizontal Positions

Hub	Female Hub	Male & Female Hub		nate Internal n Cubic Inches
Size	Cat. #	Cat. #	Vert.	Horiz.
11/4	EYS4*	EYS46*	6	8
11/2	EYS5*	EYS56*	10³/₄	121/4
2	EYS6*	EYS66*	19	223/4
21/2	EYS7*	EYS76*	251/2	30
3	EYS8*	EYS86*	56	641/2
31/2	EYS9*	EYS96*	72	82
4	EYS10*	EYS106*	95	110
5	EYS012	EYS0126	200	222
6	EYS014	EYS0146	290	315

*Available in copper-free aluminum - to order, add suffix SA to Cat. No.

Ordering Information - EZS





Male & female hub

For Sealing at Any Angle

Hub	Female Hub	Male & Female Hub		nate Internal in Cubic Inches
Size	Cat. #	Cat. #	Vert.	Horiz.
1/2	EZS1	EZS16	61/4	61/4
3/4	EZS2	EZS26	61/2	61/2
1	EZS3	EZS36	101/4	101/4
11/4	EZS4	EZS46	121/2	121/2
11/2	EZS5	EZS56	141/2	141/2
2	EZS6	EZS66	46	46
21/2	EZS7	EZS76	55	55
3	EZS8	EZS86	90	90

EYS

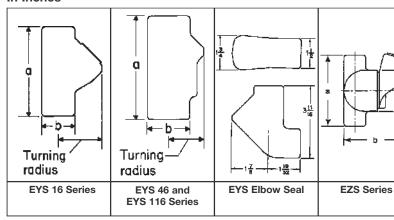


Elbow seal

For Sealing in Vertical Positions

		Approximate
Hub Size	Cat. #	Internal Volume in Cubic Inches
3/,	FYS29	13/4

Dimensions In Inches



EYS Elbow Seal

Size	а	b	Turning Radius (Vertical)
3/4	311/16	13/4	1 ⁷ / ₈

EZS Series

Size	а	b	С	Turning Radius†
1/2	43/16	35/8	21/2	1 ⁷ / ₈
3/4	43/16	35/8	21/2	17/8
1	415/16	331/32	3	21/8
11/4	51/16	$4^{13}/_{32}$	3	25/16
11/2	53/16	49/16	31/4	211/32
2	71/16	$5^{13}/_{32}$	53/16	39/32
21/2	715/16	$5^{27}/_{32}$	53/16	33/8
3	85/8	$6^{1}/_{2}$	57/8	37/8

†With cover removed.

Conduit Sealing Fittings

for IEC Applications

片 Applications:

EYS and EZS sealing fittings:

- Restrict the passage of gases, vapors or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures
- · Limit explosions to the sealed off enclosure
- Limit precompression or pressure "piling" in conduit systems Sealing fittings are required:
- At each entrance to an enclosure housing an arcing or sparking device when used in Class I, Division 1 and 2 hazardous locations.
 To be located as close as practicable and, in no case, more than 18" from such enclosures
- At each conduit entrance of 2" size or larger to an enclosure or fitting housing terminals, splices or taps when used in Class I, Division 1 hazardous locations. To be located as close as practicable and, in no case, more than 18" from such enclosures
- In conduit systems when leaving Class I, Division 1 or Division 2 hazardous locations
- In cable systems when the cables either do not have a gas/vaportight continuous sheath or are capable of transmitting gases or vapors through the cable core when those cables leave the Class I, Division 1 or Division 2 hazardous locations

Features:

EYS and EZS sealing fittings include:

- · Minimum turning radius
- Large openings with threaded closures to provide easy access to conduit hubs for making dams
- Integral bushings in conduit hubs to protect conductor insulation from damage
- Taper-tapped hubs to ensure ground continuity

EYS sealing fittings are available for installation in either vertical only or in both horizontal or vertical positions.

EZS sealing fittings for installation at any angle; the covers with opening for sealing compound can be properly positioned to accept the compound.



Certifications and Compliances:

• IEC:

Ex II 2 G EEx d IIC

EC-Type examination certificate LOM 03 ATEX 2108

IP67 according to EN 60529

Standard Materials:

- Bodies Light alloy, natural finish
- Plugs Light alloy, natural finish
- Removable nipples Light alloy, natural finish

Size Ranges:

- EYS 1/2" 4"
- EZS 1/2" 1"

Ordering Information:

Series	Mounting Direction	Hub Size	Cat. #				
EYS	Vertical	1/2" NPT	NOR 000 002 220 117				
EYS	Vertical	3/4" NPT	NOR 000 002 220 125				
EYS	Vertical	1" ISO	NOR 000 002 220 133				
EYS	Vertical	1" NPT	NOR 000 002 220 620				
EYS	Horizontal	11/2" NPT	NOR 000 002 220 160				
EYS	Horizontal	2" NPT	NOR 000 002 220 168				
EZS	Horizontal	1/2" NPT	NOR 000 002 220 216				
EZS	Horizontal	3/4"NPT	NOR 000 002 220 224				
EZS	Horizontal	1" ISO	NOR 000 002 220 232				
EZS	Horizontal	1" NPT	NOR 000 002 220 729				

6F

EYSA Flameproof Sealing Fitting

Applications:

EYSA sealing fittings:

- Restrict the passage of gases, vapors, or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures
- Limit explosions to the sealed off enclosure
- Prevent pre-compression or "pressure piling" in conduit systems

Sealing fittings are required:

- At each entrance to an enclosure housing an arcing or sparking device when used in Zone 1, hazardous locations to be located as close as practicable and in no case more than 450mm from such enclosures
- In conduit systems when leaving the Zone 1 area and entering an area of lesser hazard

Features:

- Minimum turning radius
- Large openings with threaded closures to provide easy access to conduit hubs for making dams
- Integral bushings to protect conductor insulation from damage
- Removable male nipple supplied when male and female hub style is ordered

Certifications and Compliances:

 Type of Protection: Ex d, DIP A21, T60°C, IP66

• Degree of Protection: IP66

• Gas Group: IIC

• Approvals: IEC Ex TSA07.0015-1

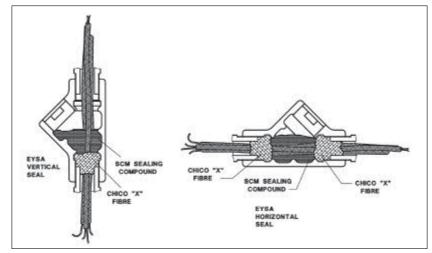
Standard Materials:

- Bodies copper-free aluminum
- Removable nipples and plugs brass

Standard Finishes:

- Body polyurethane gray
- · Nipples and plugs natural





Ordering Information:

ıl (g)

Weight of

Weight of

Cl. I, Div. 1 & 2, Groups B, C, D§ Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

Dust-Ignitionproof

Applications:

EYD drain and EZD drain and inspection sealing fittings:

- Restrict the passage of gases, vapors or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures
- · Limit explosions to the sealed-off enclosure
- Prevent precompression or "pressure piling" in conduit systems

Drain sealing fittings are installed in vertical conduit runs and at low points in conduit systems to prevent accumulation of condensate above seal.

For sealing fittings requirements see page 139.

Features:

EYD and EZD drain sealing fittings include:

- Drain to provide continuous, automatic drainage of condensate
- · Large openings with threaded closures to provide easy access to conduit hubs for making dams
- · Integral bushings to protect conductor insulation from damage
- · Taper-tapped hubs to ensure ground continuity

EZD drain and inspection sealing fittings also include:

- Removable covers for periodic inspection of seals
- · Barrier for sealing compound easily installed after dams are made and before compound is poured.

Certifications and **Compliances:**

• NEC/CEC:

EYD11-101, 116-1016

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

EYD1-10, 16-106, EZD10-60, 111-611

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups F, G Class II, Division 2, Groups F, G Class III

• UL Standard: 1203 • CSA Standard: C22.2

Standard Materials:

- Bodies, and inspection or drain covers -Feraloy® iron alloy and/or ductile iron
- Closure for drain copper-free aluminum or ductile iron
- Small closure plug Feraloy iron alloy and/or steel
- Drain stainless steel
- Removable nipples steel

Standard Finishes:

• Feraloy iron alloy and ductile iron electrogalvanized and aluminum acrylic

Cl. III

- · Copper-free aluminum natural
- Stainless steel natural
- Steel electrogalvanized

Options:

Description Copper-free aluminum bodies,

SA

Suffix

nipples and enclosures

- Size Ranges: • EYD - 1/2" - 4"
- EZD 1/2" 2"

Ordering Information - EYD



Female hub



Male &

female hub



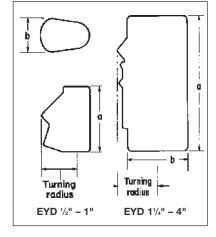


Female hub

Male & female hub

Hub Size	Female Hub Cat. #	Male & Female Hub Cat. #	Female Hub Cat. #	Male & Female Hub Cat. #	Approximate Internal Volume in Cubic Inches
1/2	EYD1*	EYD16*	EYD11	EYD116	1
3/4	EYD2*	EYD26*	EYD21	EYD216	2
1	EYD3*	EYD36*	EYD31	EYD316	33/4
11/4	EYD4*	EYD46*	EYD41	EYD416	8
11/2	EYD5*	EYD56*	EYD51	EYD516	103/4
2	EYD6*	EYD66*	EYD61	EYD616	20
21/2	EYD7*	EYD76*	EYD71	EYD716	35
3	EYD8*	EYD86*	EYD81	EYD816	57
31/2	EYD9*	EYD96*	EYD91	EYD916	75
4	EYD10*	EYD106*	EYD101	EYD1016	105

Dimensions In Inches



EYD Drain Seal

Size	а	b	Turning Radius
1/2	39/32	11/4	15/8
3/4	311/16	11/2	129/32
1	45/16	23/16	23/8
11/4	51/16	23/16	1-27/32†
11/2	51/2	27/16	2-1/16
2	61/4	3	2-5/16
21/2	71/2	31/2	2-11/16
3	81/2	41/4	3-5/16†
31/2	93/16	$4^{3}/_{4}$	3-7/16†
4	93/4	51/4	3-1/2†

Sealing Fittings are approved for use in hazardous locations only when Chico® X fiber and Chico A sealing compound or Chico SpeedSeal are used to make the seal.

§See Certifications and Compliances for classification of each product.

^{&#}x27;Available in copper-free aluminum – to order, add suffix SA to Cat. No.

Conduit Sealing Fittings with Drain and Inspection Cover

Chico Sealing Compound and Fiber see pages 155–156

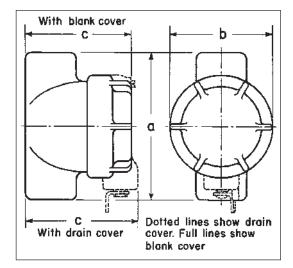
EZD With Drain Cover



Approximate Hub Internal Volume in Cubic Inches Size Cat. # 1/₂ 3/₄ EZD111 EZD211 **EZD311** 10 11/4 EZD411 11 11/2 **EZD511** 13 EZD611 40

Cl. I, Div. 1 & 2, Groups C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof Cl. II, Div. 2, Groups F, G CI. III

Dimensions In Inches:



EZD Drain and Inspection Seals

Size	а	b	Drain Cover c	Turning Radius†
1/2	43/16	3	33/8	21/16
3/4	43/16	3	35/8	23/16
1	415/16	31/2	37/8	27/16
11/4	415/16	31/2	45/16	25/8
1 1/2	5 ³ / ₁₆	31/2	49/16	211/16
2	71/8	59/16	51/4	311/16

†With cover removed

EYSX Expanded Fill Sealing Fittings

Chico Sealing Compound and Fiber see pages 155-156

Cl. I, Div. 1 & 2, Groups B, C, D§ Cl. II, Div. 1, Groups E, F, G

Cl. II, Div. 2, Groups F, G

CI. III

Explosionproof Dust-Ignitionproof

Applications:

EYSX Expanded Fill Sealing Fittings:

- · Restrict the passage of gases, vapors or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures
- · Limit explosions to the sealed-off enclosure
- Limit precompression or "pressure piling" in conduit systems
- Provide 40% wire fill capacity to allow uninterrupted runs in a conduit system

Sealing fittings are required:

- At each entrance to an enclosure housing an arcing or sparking device when used in Class I, Division 1 and 2 hazardous locations. To be located as close as practicable and, in no case, more than 18" from such enclosures
- At each entrance of 2" size or larger to an enclosure or fitting housing terminals, splices or taps when used in Class I, Division 1 hazardous locations. To be located as close as practicable and, in no case, more than 18" from such enclosures
- · In conduit systems when leaving Class I, Division 1 or 2 hazardous locations
- · In cable systems when the cables either do not have a gas/vaportight continuous sheath or are capable of transmitting gases or vapors through the cable core when those cables leave the Class I, Division 1 or 2 hazardous locations

Features:

EYSX Expanded Fill Sealing Fittings

- A 40% wire fill capacity for expanded fill
- Large openings with threaded closures to provide easy access to conduit hubs for making dams
- · Integral bushings in conduit hubs to protect conductor insulation from damage
- · Taper-tapped hubs to ensure ground continuity
- · Minimum turning radius

EYSX Expanded Fill Sealing Fittings are available for installation in both horizontal or vertical positions.

Certifications and **Compliances:**

• NEC/CEC:

EYSX11 - EYSX81

Class I, Division 1 and 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II. Division 2. Groups F. G Class III

EYSX9, EYSX10, EYSX1 SA - EYSX10 SA

Class I, Division 1 and 2, Groups C, D Class II. Division 1. Groups E. F. G. Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies Feraloy® iron alloy and/or ductile iron or copper-free aluminum (SA Suffix)
- Closures Feraloy iron alloy and/or steel or copper-free aluminum (SA Suffix)

Standard Finishes:

- Feraloy iron alloy and ductile iron electrogalvanized and aluminum acrylic paint
- Steel electrogalvanized
- Copper-free aluminum natural

Options:

Description Suffix Copper-free aluminum bodies and enclosures SA

Internal Volume

Size Ranges:

• 1/2" - 4"

Ordering Information For Sealing in Vertical or **Horizontal Positions**

Hub	Female Hub	in Cub	oic Inches
Size	Cat. #	Vertical	Horizonta
1/2	EYSX11*	2	2
1/2	EYSX1 SA	2	2
3/4	EYSX21*	3	33/4
	EYSX2 SA		33/4
		6	8
1	EYSX3 SA	6	8
1 1/4	EYSX41	19	223/4
1 1/4	EYSX4 SA	19	223/4
1 1/2	EYSX51	19	223/4
1 1/2	EYSX5 SA	19	223/4
2		56	641/2
2	EYSX6 SA	56	641/2
21/2	EYSX71	72	82
21/2	EYSX7 SA	72	82
3	EYSX81	95	110
3	EYSX8 SA	95	110
31/2	EYSX9*	200	222
31/2	EYSX9 SA	200	222
4	EYSX10*	200	222
4	EYSX10 SA	200	222

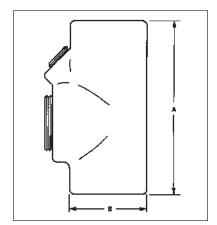


Vertical or horizontal female

Sealing fittings are approved for use in hazardous locations only when *Chico*® *X* fiber and *Chico A* sealing compound or Chico SpeedSeal are used to make the

Dimensions

In Inches:



NPT Size	Α	В	Turning Radius	
1/2	311/16	11/2	11/4	
3/4	45/16	13/4	13/8	
1	51/16	23/16	1 23/32	
11/4	61/4	3	25/16	
11/2	61/4	3	25/16	
2	81/2	41/4	35/16	
21/2	93/16	$4^{3}/_{4}$	3-7/16#	
3	93/4	51/4	3-11/16#	
31/2	111/16	61/2	4-19/32#	
4	111/16	61/2	4-19/32±	

[§] See Certifications and Compliances for classification of each product.

[‡]With plug cover removed.

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EYDX Expanded Fill Sealing Fittings With Drains

Chico Sealing Compound and Fiber see pages 155-156

Cl. I, Div. 1 & 2, Groups B, C, D§ Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof **Dust-Ignitionproof**

Applications:

EYDX Expanded Fill Sealing Fittings with

- · Restrict the passage of gases, vapors or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures
- · Limit explosions to the sealed-off enclosure
- Prevent precompression or "pressure piling" in conduit systems
- Provide 40% wire fill capacity to allow uninterrupted runs in a conduit system

Drain sealing fittings are installed in vertical conduit runs and at low points in conduit systems to prevent accumulation of condensate above seal.

For sealing fittings requirements see page 139.

Features:

EYDX Expanded Fill drain sealing fittings provide:

- A 40% wire fill capacity for expanded fill sealing
- · Drain to provide continuous, automatic drainage of condensate
- Large openings with threaded closures to provide easy access to conduit hubs for making dams
- · Integral bushings to protect conductor insulation from damage
- · Taper-tapped hubs to ensure ground continuity

Certifications and Compliances:

• NEC/CEC:

EYDX11 - EYDX81

Class I, Division 1 and 2, Groups B, C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

EYDX1 SA - EYDX8 SA

Class I, Division 1 and 2, Groups C, D Class II, Division 1, Groups F, G Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies and drain covers Feraloy® iron alloy, and ductile iron or copper-free aluminum (SA Suffix)
- Closure for drain copper-free aluminum or malleable iron
- Small closure plug Feraloy iron alloy and/or steel or copper-free aluminum (SA Suffix)
- Drain stainless steel

Standard Finishes:

- Feraloy iron alloy and ductile iron electrogalvanized and aluminum acrylic
- Copper-free aluminum natural
- Stainless steel natural
- Steel electrogalvanized

Options:

Description Suffix Copper-free aluminum bodies and enclosures SA

Size Ranges:

• EYDX - 1/2" - 3"

Sealing Fittings are approved for use in hazardous locations only when Chico® X fiber and Chico A sealing compound or Chico SpeedSeal are used to make the

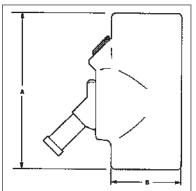
Ordering Information

me nes

§ See Certifications and Compliances for classification of



Dimensions In Inches:



EYDX NPT

Size	Α	В	Turning Radius
1/2	311/16	13/4	129/32
3/4	45/16	23/16	23/8
1	51/16	23/16	1-27/32+
1 1/4	61/4	3	2-5/16
1 1/2	61/4	3	2-5/16
2	81/2	41/4	3-5/16+
21/2	93/16	43/4	3-7/16†
3	93/4	51/4	3-1/2+

†With drain cover removed.

Chico Sealing Compound and Fiber see pages 155-156

Cl. I, Div. 2, Groups C, D Cl. II, Div. 2, Groups E, F, G Explosionproof **Dust-Ignitionproof**

Applications:

EYSR retrofit sealing fittings are installed:

- In rigid metal conduit systems in Class I, Division 2 hazardous locations
- To replace installed Eaton's Crouse-Hinds type EYS or EYD sealing fittings
- · Without disassembly of the conduit system
- · In vertical or horizontal positions, indoors or outdoors
- · To restrict the passage of gases, vapors, or flames from one portion of the electrical system to another at atmospheric pressures and normal ambient temperatures
- · To limit explosions to the sealed-off enclosure
- To limit precompression or "pressure piling" in the conduit system
- To prevent accumulation of water in the conduit system when installed with an ECD15 drain

Features:

- · Seal may be installed in the existing conduit run without disassembly of the conduit system saving time and labor
- · Overall length and spacing requirements do not exceed those of standard EYS seals; permits close nesting of seals
- Pipe plugs permit the installation of a standard ECD15 drain fitting (order separately) for use in vertical conduit runs to drain any water that might accumulate in the conduit system
- · Steel set screws provide grounding continuity
- · Suitable for vertical and horizontal installations for indoor and outdoor applications
- Available in ³/₄" to 4" NPT sizes

Certifications and **Compliances:**

Class I, Division 2, Groups C, D Class II, Division 2, Groups E, F, G

- UL Standard: 1203
- CFC:

Class I, Division 1, Groups C, D Class II, Division 1, Groups E, F, G

• CSA Standard: C22.2 No. 30

EYSR sealing fittings are approved for use in hazardous locations only when Chico® A sealing compound and Chico X fiber are used to make the seal.

Standard Materials:

- Body Feraloy® iron alloy
- Pipe plugs, bolts and set screws steel
- Gasket neoprene

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Steel electrogalvanized
- Gasket natural

Options:

Description Copper-free aluminum Suffix

Size Ranges:

3/4" - 4"

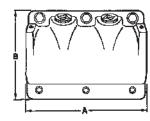


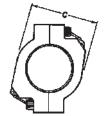
Ordering Information

Hub Size	Cat. #	Approxi Volume Cubic Ir Vert.		Approxi (oz.) of I per Hub Vert.	
3/4	EYSR2	31/2	53/4	1/16	1/8
1	EYSR3	43/4	91/2	1/8	1/4
11/4	EYSR4	7	131/2	1/4	1/2
11/2	EYSR5	121/4	241/4	1/2	1
2	EYSR6	253/4	401/2	1	2
21/2	EYSR7	48	751/2	1 1/2	3
3	EYSR8	861/2	126	2	4
31/2	EYSR9	147	210	41/2	9
4	EYSR10	186	252	41/2	9

^{*}Use the approximate internal volume in cubic inches to determine how much Chico A sealing compound is required.

Dimensions In Inches:





Cat. #	Α	В	С
EYSR2	311/16	21/2	11/2
EYSR3	43/8	31/8	31/8
EYSR4	5	33/8	3
EYSR5	51/4	35/8	3
EYSR6	61/4	4	3

Cat. #	Α	В	С
EYSR7	71/2	5	37/8
EYSR8	81/2	$5^{1}/_{2}$	41/4
EYSR9	913/64	61/16	$4^{3}/_{4}$
EYSR10	93/4	65/8	51/4

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ES Sealing Hubs

Chico Sealing Compound and Fiber

see pages 155-156

Applications:

ES sealing hubs are used to:

- Seal vertical conduit risers at switchgear and motor control centers, sheet metal structures or cast boxes and enclosures
- · Seal horizontal conduit runs at enclosures when used with TSC sealing compound

Certifications and Compliances:

- Class I, Division 1 & 2, Groups C & D
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

• Feraloy® iron alloy

Standard Finishes:

· Electrogalvanized and aluminum acrylic

Options:

ES sealing hubs, when used with SG armored gaskets and locknuts, provide a water and oiltight connection

Description Suffix SG

Sealing gaskets and locknuts



Ordering Information

Female Hub Size	Male Hub Size	Cat. #	Approximate Internal Volume in Cubic Inches
1/2	1	ES31	.65
3/4	1	ES32	.65
1	11/2	ES53	3.2
11/4	2	ES64	4.9
11/2	2	ES65	4.7
2	21/2	ES76	9.1
3	4	ES108	36.0
4	5	ES01210	95.0
5	6	ES014012	155.0

Note: Sealing hubs are approved for use in hazardous locations when Chico® X fiber and Chico A sealing compound are used to make the seal. Sealing hubs are approved for horizontal conduit runs for use in hazardous locations when used with TSC sealing compound, order 1 oz. tube as TSC1.

TSC Epoxy Sealing Compound

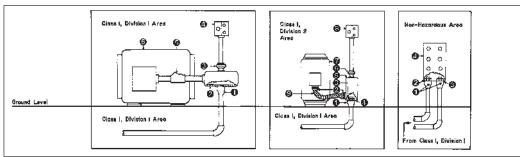


A two part epoxy sealing compound may be used to seal ES sealing hubs. It is quick and easy to measure, mix and install. The compound is kneaded until a uniform color is obtained. It is then packed around the conductors to effectively seal the cable.

Std. Ctn. Qty.	Tube Size	Cat. #†
10	0.5 oz	TSC05
10	1.0 oz	TSC1
5	4.0 oz	TSC4

†Order quantity of one (1) TSC05 or TSC1 equals 10 tubes; one (1) TSC4 equals 5 4.0 oz tubes.

Typical Installations



- 1. ES Sealing Hub
- 2. EJB Junction Box
- 3. UNY Union
- 4. EDS Factory Sealed **Control Station**
- 5. EYS Horizontal Seal
- 6. Explosion-Proof Motor
- 1. ES Sealing Hub

Cl. I, Div. 1 & 2, Groups C, D

Explosionproof Watertight

- 2. LT Connector
- 3. Locknut
- 4. Sealing Gasket
- 5. Junction Box
- 6. UNY Union
- 7. Synchronous Motor
- 8. EDS Factory Sealed **Control Station**
- 9. LT Conduit

- 1. ES Sealing Hub
- 2. Locknut
- 3. Sealing Gasket
- 4. Sheet Metal Structure, Motor
- Control Center, Panelboard, Unit Substation, Etc.

1	d Male	
d	Female Hub	1

Cat. #	а	b	С	d	е
ES31	19/16	7/8	2	25/32	11/4
ES32	1 13/16	⁷ / ₈	2	25/32	11/2
ES53	21/4	13/8	23/4	1 15/16	13/4
ES64	23/4	13/4	23/4	1 15/16	23/16
ES65	23/4	1 5/8	31/16	2	27/16
ES76	31/2	21/16	39/16	2	3
ES108	51/4	35/8	43/4	231/32	41/4
ES01210	6 ⁵ / ₈	45/8	63/4	$4^{27}/_{32}$	51/4
ES014012	71/4	$5^{25}/_{32}$	71/4	5 ¹¹ / ₃₂	61/2

Dimensions

In Inches:

6F

Rated to 1500 PSI

Ultra High Pressure Seal

片 Applications:

- If the primary seal in an instrument should fail, the Eaton's Crouse-Hinds Ultra High Pressure Seal (UHPS) will prevent gases from migrating through the electrical system into a non-classified location
- Are designed to prevent the passage of gases under pressure through conduits, cables and conductors.
- Are ideal where volatile liquids or gases are stored, processed or transported under pressure.

Certifications & Compliances:

- Class I, Division 1, Groups B, C, D
- · Certified to CSA Standards through QPS
- 24 Volt DC 120 Volt AC
- Wire grade is rated to a 600 Volt safety factor
- 1/2" MNPT x 1/2" NPT
- Conforms to Section 18-108 and 18-158 of the CEC® for The Requirements of a Secondary Seal.

Standard Materials & Finishes:

• Stainless steel body - natural finish

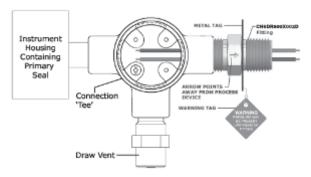
Quality Assurance:

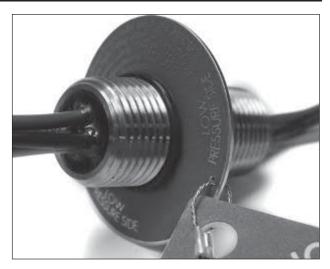
Each fitting is tested at 1.5 times working pressure (max. working pressure 1500 PSI) as a gas and liquidtight explosion proof fitting. Each seal is also di-electric and resistance tested.

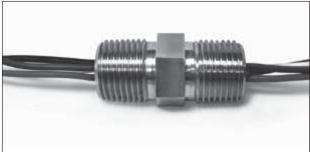
Ordering Information:

0.409				
Catalog Number	Description			
CH6DR500X002D140	G UHPS, 2 wire, 14 gauge			
CH6DR500X002D160	G UHPS, 2 wire, 16 gauge			
CH6DR500X002D180	G UHPS, 2 wire, 18 gauge			
CH6DR500X002D220	G UHPS, 2 wire, 22 gauge			
CH6DR500X004D140	G UHPS, 4 wire, 14 gauge			
CH6DR500X004D160	G UHPS, 4 wire, 16 gauge			
CH6DR500X004D180	G UHPS, 4 wire, 18 gauge			
CH6DR500X004D220	G UHPS, 4 wire, 22 gauge			
CH6DR500X234D140	GUHPS, 4 wire, 14G, 2' input, 3' output			
CH6DR500X264D160	G UHPS, 4 wire, 16G, 2' input, 6' output			
CH6DR500X294D160	G UHPS, 4 wire, 16G, 2' input, 9' output			
CH6DR500X2D2D160	G UHPS, 2 wire, 16G, 2' input, CF output			

INSTALLATION EXAMPLE:







Applications:

Eaton's Crouse-Hinds Secondary Process Seal Assembly with Rupture Indication Sensor is designed to prevent the passage of gases under pressure through conduit, cables and conductors while providing immediate notification of a dangerous, potentially explosive seal rupture. These assemblies are ideal where volatile liquids or gases are stored, processed or transported under pressure. If the primary seal in an instrument should fail, the Eaton's Crouse-Hinds Secondary Process Seal will prevent gases, vapors and liquids from migrating into the non-classified location through the electrical system.

Rupture Indication Sensor:

The Secondary Process Seal features a rupture indication sensor that opens safely at 60 psi minimum and activates a circuit to a control system or alarm, which immediately alerts maintenance personnel that the primary seal has ruptured. The location of the problem can be pinpointed so the problem can be quickly addressed.

Innovative, intelligent technology combined with easy installation and low maintenance cost provides a safe and reliable solution for detection of a process seal rupture within your facility.

Features and Benefits:

Secondary Process Seal

- CSA and CSAus certified
- Meets or exceeds ANSI / ISA / CSA / CEC / NEC / API requirements for a secondary process seal and explosionproof conduit seal
- Sealed to 1500 psi, operates in any position
- Simplified design allows for easier installation in new and existing applications
- Integrated packaging contains all necessary components for installation
- The explosionproof drain allows for the safe release of gas, vapor or liquid from the electrical system to meet required codes
- Explosionproof terminal box features a simple design to provide access for quick connection of circuits
- Assembly with drain provides local "make obvious" indication of primary seal failure

Rupture Indication Sensor

- Rupture detection and indication at 60 psi
- Provides remote, immediate notification of a seal rupture, allowing for maintenance to quickly address the problem and isolate safety concerns
- Stainless steel construction provides superior corrosion resistance and durability



Ordering Information:

	Assembly with Vent/Drain	Assembly with Rupture Indication Sensor and Vent/Drain
2 wire, 14 gauge	SPS214	SPS214R
2 wire, 16 gauge	SPS216	SPS216R
2 wire, 18 gauge	SPS218	SPS218R
2 wire, 22 gauge	SPS222	SPS222R
4 wire, 14 gauge	SPS414	SPS414R
4 wire, 16 gauge	SPS416	SPS416R
4 wire, 18 gauge	SPS418	SPS418R
4 wire, 22 gauge	SPS422	SPS422R

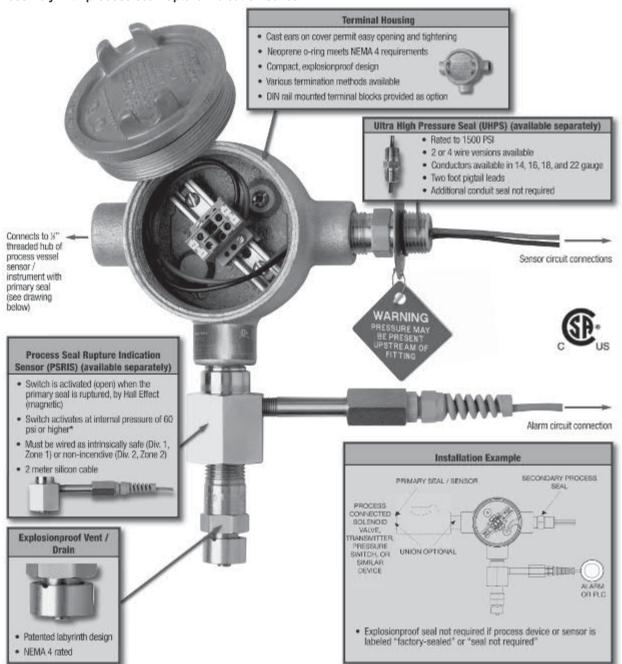
For Process Seal Rupture Indication Sensor replacement, order catalog #PSRIS.

Options:

o p a o i i o i	
Description	Suffix
No terminal blocks	(leave option blank)
2 terminal blocks	DIN12
4 terminal blocks	DIN14

Assembly Information

Assembly with process seal rupture indication sensor



*60 psi internal pressure rating at 25°C ambient. Activation pressure may vary +/ - 10% depending on ambient variation.

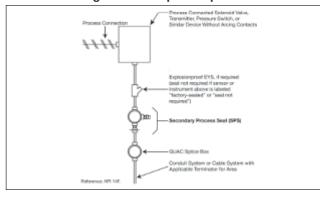
6F

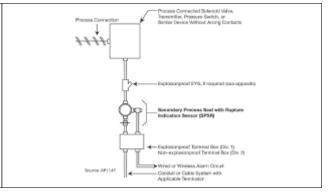
Cl. I, Zone 1 & 2 IIB + H₂ Cl. II, Div. 1 & 2, Groups E, F, G

Installation Examples

Secondary Process Seal with local "make obvious" indication using an ECD explosionproof drain

Secondary Process Seal with Rupture Indication Sensor for remote indication, and ECD explosionproof drain for local "make obvious" indication





Technical Data - Assembly

Product Certification

The Secondary Process Seal and Assemblies are CSA certified (Canada, U.S.)

Operating Pressure Rating

Rupture protection to 1500 psi Rupture indication at 60 psi minimum

Operating Temperature Range

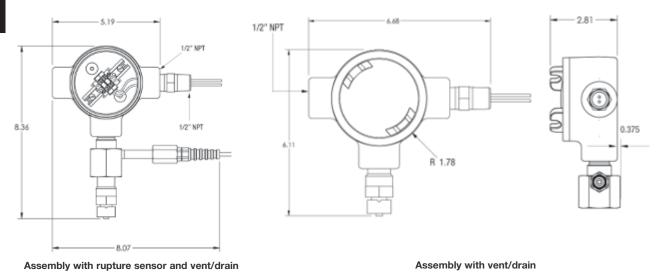
-25°C to +50°C

Note: For more extreme temperature and/or pressure requirements, please consult factory.

Technical Data - Components

Components	Construction	Certifications and Compliances	Rating	Area Suitability
Process Seal Rupture Indication Sensor	Hub - 316 stainless steel	ANSI / ISA 12.27.01 - 2003 CEC 18 - 108, 158 NEC 501.15(F)(3)	-	
	Switch Assembly - hermetically sealed, nickeled brass, with silicon cable		174 mA 24VDC T6 (Tamb ≤ 40°C) T5 (40°C < Tamb ≤ 55°C) T4 (55°C < Tamb ≤ 80°C)	Cl. II, Div. 1 & 2, Groups
Ultra High Pressure Seal	Stainless steel	CSA 22.2 No. 30 - 03 CSA 22.2 No. 14 - 2005 ANSI / ISA 12.27.01 - 2003 CEC 18 - 108, 158 NEC 501.15(F)(3)	24VDC 120VAC	E, F, G Zone 1 IIB+H ₂ and Zone 2 IIB+H ₂ NEMA 3, 4, 7BCD, 9
Terminal Housing	Copper-free aluminum	UL1203 CSA C22.2 No. 30	-	
Drain / Vent	Stainless steel	UL1203 CSA C22.2 No. 30	-	

Dimensions (Inches):



Note: Assemblies shown with DIN12 terminal blocks (optional)

Assembly with vent/drain

Chico® A and Chico® A-P Sealing Compound Chico® X Fiber Chico® SpeedSeal™

For Sealing Fittings and Hubs

Applications:

Chico X fiber:

 Forms a dam between the integral bushing of the sealing fitting and the end of the conduit and around the electrical conductors entering the hub

Chico A sealing compound:

 Forms a seal around each electrical conductor and between them and inside of the sealing fitting to restrict the passage of gases, vapors or flames through the sealing fitting at atmospheric pressure and at normal ambient temperatures

Chico® SpeedSeal™ Compound:

- Designed to separate and form an explosion proof seal around each electrical conductor in Eaton's Crouse-Hinds EYS and EYD sealing fittings
- Restricts the passage of gases, vapors or flames through the sealing fitting
- Creates a seal for Class I, Division 1, Groups C, D and Class II, Division 1, Groups E, F, G hazardous areas

Features:

Chico A sealing compound:

- A water soluble powder that can be easily mixed and poured. The compound, unusually dense, expands slightly when hardening and bonds to inner walls of sealing fittings. Compound hardens in 60–70 minutes
- Chico A cure time is 8 hours for Class I, Group C and D applications and 72 hours for Class I, Group A and B applications.
- Chico A has a 1 year shelf life from date of manufacture.
- Chico A ambient temperature range (after curing) is -40°F to +165°F. Chico A-P Intrapak®:
- Packaged in two-compartment plastic pouch with precise amount of water for mixing. No mixing or measuring implements required.
- A hard squeeze of the water compartment forces the water into the compartment containing the Chico compound. Mixing is completed by kneading the pouch for one minute.
- The mixed sealing compound is poured directly into the sealing fitting

 no funnel required. The package label indicates the size and quantity
 of sealing fittings each pouch will properly fill. Compound hardens in

Chico X fiber:

- A mineral wool that packs easily, forming around each conductor Chico® SpeedSeal™ Compound:
- Installs a reliable seal in five minutes every time
- Hardens to a dense, strong mass that is suitable for Class I, Division 1, Groups C, D and Class II, Division 1, Groups E, F, G hazardous applications.
- UL and cUL Listed for use with 1/2" to 2" Eaton's Crouse-Hinds sealing fittings only.
- Packaged in a 2 oz. or 6 oz. pre-measured cartridge, eliminating the need for measuring before mixing.
- · Packaged with a screw-on nozzle for accurate dispensing.
- Expands four times its original size in the sealing fitting, eliminating the need to separate the individual conductors with Chico X fiber.
- Chico X fiber dams are not required in horizontal applications, reducing installation times.
- Completely hardens in 20 minutes, simplifying use for OEMs.
- Suitable for cold temperature environments without the costly need to build a temporary shelter around sealing fittings. All ice crystals must be removed from inside the conduit seal before dispensing Chico SpeedSeal compound. The Chico SpeedSeal compound should be kept above 10°C (50°F) and below 85°F (29°C) prior to mixing.
 The sealing fitting must be kept at or above 4°C (40°F) during the 4 to 10 minute expansion/gel time of the compound.
- 18 months shelf-life.
- Patent pending.

Crouse-Hinds

Size Ranges:

- Chico A compound 1 lb. to 5 lbs. (provides 23–115 cubic inches of compound)
- Chico X fiber 2 oz. to 1 lb.
- Chico A-P (5 pouches per carton) provides 25 and 55 cubic inches of compound
- Chico SpeedSeal 2 oz. or 6 oz. cartridge

Eaton's Crouse-Hinds sealing fittings are approved for use in hazardous locations only when Chico X fiber and Chico A Sealing Compound or Chico SpeedSeal are used to make the seal.

Ordering Information - Chico A



Net Weight	Vol. Cu. In.†	Cat. #
1 lb.	23	Chico A3
1 lb.‡	23	Chico A4
5 lb.	115	Chico A05

Ordering Information - Chico A-P Intrapak®



Fill per	No. of Pouches per Carton	Cat. #
5	5	Chico A19 PX*
11	5	Chico A39 PX*

*A sixth pouch, containing an appropriate quantity of Chico X fiber, is included in these cartons

†Number of cubic inches this amount will fill when set. See internal volume requirements for EVS, EZS, EVD, EZD and EYSR sealing fittings and ES sealing hubs (see pages 140–149).
‡Includes 1 oz. Chico X fiber.

Chico® A and Chico® A-P Sealing Compound Chico® X Fiber Chico® SpeedSeal™

For Sealing Fittings and Hubs

B Ordering Information - Chico X Fiber



Net Weight	Cat. #
2 oz.	Chico X4
8 oz.	Chico X6
1 lb.	Chico X7

Chart for Approximate Amount of Fiber Per Hub

Hub Size	Ozs. Required
1/2	1/32
3/4	1/16
1	1/8
11/4	1/4
11/2	1/2
2	1
21/2	1 ½
3	2
31/2	3
4	41/2
5	7
6	10

Ordering Information - Chico SpeedSeal Class I, Div. 1, Groups C & D and Class II, Div. 1, Groups E, F and G



Sealing Fitting Cat. #	SpeedSeal Material needed per fitting (in ounces)	SpeedSeal Cat. #
EYS1, EYS16; EYS11, EYS116 EYD1, EYD16, EYD11, EYD116 EYS2, EYS26, EYS21, EYS216 EYD2, EYD26, EYD21, EYD216 EYSX11, EYDX11	1	CHICO SS2 (2 oz. Cartridge)
EYS3, EYS36, EYS31, EYS316 EYD3, EYD36, EYD31, EYD316 EYSX21, EYDX21	2	CHICO SS2 (2 oz. Cartridge)
EYS41, EYS416, EYS4, EYS46 EYD4, EYD46, EYD41, EYD416 EYS51, EYS516, EYS5, EYS56 EYD5, EYD56, EYD51, EYD516 EYSX31, EYDX31 EYSX41, EYDX41	3	CHICO SS6 (6 oz. Cartridge)
EYS61, EYS616, EYS6, EYS66 EYD6, EYD66, EYD61, EYD616 EYSX51, EYDX51	6	CHICO SS6 (6 oz. Cartridge)

MSDS sheets are available at www.crouse-hinds.com

For Use with Sealing Fittings and Hubs

Eaton's Crouse-Hinds EYS Tool Kit lets you safely and reliably pack the fiber dam in explosionproof sealing fittings. Consisting of five patented, two-sided tools in a handy canvas bag, the EYS Tool Kit makes the critical steps of separating electrical conductors and packing fiber dams quick and easy.

Features and Benefits:

- The EYS Tool Kit consists of five tools and a canvas tool bag. Four tools have two unique ends for a total of 9 different tools.
- Each tool is numbered for easy identification.
- Tools are constructed of durable plastic with smooth and rounded surfaces that will not abrade the electrical insulation.
- The Hook tool (#3) with a large hook on one end and a small hook on the other end is designed to lift and separate individual wires.
- The Packing tools (#1, #2 & #4) have rounded ends designed for packing fiber in between and around electrical conductors.
- The Wedge tools (#2 & #5) are designed for hands-free separation of conductors while packing fiber.
- The Mirrored tool (#5) allows for easy inspection of the sealing fittings.
- All tools are sized and precisely angled to accommodate various sizes of fittings.
- The canvas tool bag is designed to neatly store and protect tools while not in use.



Ordering Information

Description Cat. #

EYS Tool Kit EYS TOOL KIT



The large hook on Tool #3 quickly lifts all the conductors.



With one of the packing tools, packing fiber in between and around electrical conductors is effortless.



The mirrored tool allows for proper inspection of the fiber dam in difficult to see areas.

Applications:

- · ECD drains and breathers are installed in enclosures or conduit systems to:
 - Provide ventilation to minimize condensation Drain accumulated condensate
- · At least one breather should be used with each drain
- A breather is installed in top of enclosure or upper section of conduit system
- · A "standard" drain is installed in bottom of enclosure or in lower section of conduit system
- "Universal" breather or drain functions as a breather when mounted at the top of an enclosure, or as a drain when mounted in the bottom of an enclosure
- · "Combination" breather and drain is used in those applications where the use of a top mounted breather is not practical due to limited space; or in offshore and marine installations where moisture may enter the enclosure through the breather located on top
- Drains and breathers are installed in hubs or drilled and tapped openings

Features:

ECD284, ECD384, ECD385 and ECD15 "Universal" drains and breathers have:

- · Patented labyrinth design, suitable for use in Class I, Division 1 & 2, Groups C,D and Class II, Division 1 & 2, Groups F,G areas
- · Capability to pass 50 cc of water per minute and 0.2 cubic feet or air per minute at atmospheric pressure
- ECD15 and ECD385 each have a well inside the inner, threaded end to provide for accumulation of sediment without clogging when used as a drain
- "Standard" ECD drains and breathers have:
- Thread-in-thread design, suitable for use in Class I. Division 1 & 2. Groups C.D: Class II. Division 1, Groups E,F,G; Class II, Division 2, Groups F,G and Class III areas
- ECD 11, 13 have capability to pass 25 cc of water per minute and .05 cubic feet of air per minute at atmospheric pressure
- ECD387 and ECD16 are a unique thread-inshaft design for use in Class I, Division 1 & 2, Groups B,C,D; Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G; Class III areas. The ECD387 and ECD16 can pass 15cc of water per minute. The ECD16 can pass .01 cubic feet of air per minute.
- "Combination" ECD breather and drain:
- Provides ventilation to minimize condensation and drains accumulated condensate - two functions performed by a single device installed in the bottom of an enclosure or conduit system
- Have the capability to pass 25 cc of water per minute and .10 cubic feet of air per minute at atmospheric pressure
- Thread-in-thread and labyrinth design, suitable for use in Class I, Division 1 & 2, Groups C and D; Class II, Division 1 & 2, Groups F and G: and Class III areas

Certifications and **Compliances:**

• NEC/CEC:

ECD 16, ECD387, ECD-N4D, ECD-N4B -

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

IP46 (ECD-N4D and ECD-N4B only) IIB + Hydrogen (ECD-N4D and ECD-N4B only)

ECD11, ECD13, ECD281 -

Class I, Division 1 & 2, Groups C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

ECD18, ECD384, ECD15, ECD385 -

Class I, Division 1 & 2, Groups C, D

Class II, Division 1, Groups F, G

Class II, Division 2, Groups F, G

Class III

IP42 IIB (ECD 15 only)

ECD284 -

Class I, Division 1 & 2, Group C, D Class II, Division 1, Groups F, G

Class II, Division 2, Groups F, G

- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- Type 4X: ECD-N4D and ECD-N4B
- ATEX Certificate # ITS07ATEX15639U

Standard Materials:

- ECD11, ECD15, ECD281, ECD284, ECD384, ECD385 - stainless steel
- ECD13 stainless steel with aluminum cap
- ECD16. ECD-N4D. ECD-N4B stainless steel
- ECD387 stainless steel
- ECD18 stainless steel with neoprene tube

Size Ranges:

• 1/4" to 1/2"



Typical installation of drain and breather in a combination motor starter

- 1. At least 5 full threads of drain or breather must be engaged in matching female thread, taper-tapped in accordance with NEMA/EEMAC Standard FB-1, Type NTC or National Bureau of Standards Handbook H28 Part II, Table 7.6.
- 2. These breathers and drains can be factory installed on various explosion-proof equipment. See options or applicable equipment pages for suffixes to be used.



FCD11





ECD15



ECD16



ECD₁₈

Ordering Information ECD "Type 4X"

Drain and Breather

Size	Drain Cat. #	Breather Cat. #
3/8	ECD38 N4D	ECD38 N4B
1/2	ECD1 N4D	ECD1 N4B

ECD "Standard"

Drain and Breather

Size	Drain Cat. #	Breather Cat. #	
1/4	ECD281		
3/8	ECD387		
1/2	ECD11	ECD13	

ECD "Universal"

Drain or Breather

Size	Cat. #
1/4	ECD284†
3/8	ECD384†
3/8	ECD385
1/2	ECD15
1/2	ECD16

†Shorter overall length than ECD15 and ECD385. For use in confined spaces such as panelboard assemblies.

ECD "Combination"

Drain	or Breatner	
Size	Cat. #	
1/2	ECD18	

Straight Body • Male Thread

Applications:

CD Series drains are for use in conduit systems to:

- Drain accumulated condensate.
- Provide ventilation to minimize condensation.

Drains are installed in hubs or drilled and tapped openings.

Certifications and Compliances:

• UL Standard 514B

Standard Materials:

- CD bodies and nuts steel or aluminum
- CD screen stainless steel

Standard Finishes:

• Steel - electrogalvanized with chromate treatment.

Options:

Description Suffix
Copper-free aluminum construction SA



Ordering Information

Size	Cat. #
1/2	CD1
3/4	CD2

NEMA 4X Breather/Drain

I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only) II 2GD, E Exe II (Nylon version) CSA Class I, Division 2, Groups A, B, C & D, Exe II Enclosure Type 4X IP66

ATEX and CENELEC Range

Applications:

For use in enclosures to provide a method to effectively drain moisture while allowing the enclosure to breathe.

Features:

All NEMA 4X breather/drains offer:

- Castellated locknuts that allow moisture to pass between the enclosure and the locknut to the drain holes in the fitting.
- Available in brass, stainless steel (Type 316) or 30% glass filled nylon.
- Captive "O" ring on recess of the face of the breather/drain to optimize ingress protection.
- ATEX and CSA Certified for worldwide market acceptance.
- Available with metric or NPT threads.

Certifications and Compliances:

- SIRA 99 ATEX 3050U
- I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only)
- II 2GD, E Exe II (Nylon only)
- CSA Class I, Division 2, Groups A, B, C & D, Exe II
- Enclosure Type 4X
- IP66

Operating Temperature:

• -50°C to +85°C



Ordering Information

Endow.	•	
Entry Method	Material	Cat. #
M20	Brass	ACDPEB/M20/15
M20	Stainless Steel	ACDPES/M20/15
M20	Nylon	ACDPEN/M20/15
M25	Brass	ACDPEB/M25/15
M25	Stainless Steel	ACDPES/M25/15
M25	Nylon	ACDPEN/M25/15
1/2"	Brass	ACDPEB/050NPT/15
1/2"	Stainless Steel	ACDPES/050NPT/15
3/4"	Brass	ACDPEB/075NPT/15
3/4"	Stainless Steel	ACDPES/075NPT/15

Commercial Products

Section CP

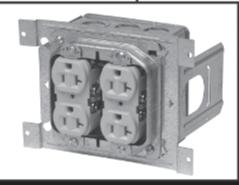
A complete solution combining reliability and expertise in every product, providing you with labor and maintenance savings, simplified installation, and improved productivity













New Products in the Commercial Products Product Line Section • Expanded line of ACB Connectors СР Quick-Lok™ Pro Connectors СР Myers™ Hubs - expanded sizes and broadest offering of ATEX rated hubs СР • Expanded offering of stainless steel fittings СР • Complete line of hot dip galvanized products СР • Expanded offering of product of the USA fittings CP • Additions and improvements to our extensive line of steel outlet boxes and covers СР • Third party certified solar combiners, compact combiners, recombiners, pass through box, СР • Solar Balance of System Components: whips, connectors, cable assemblies, and accessories СР

Commercial Products

Description	Page No.
Commercial Fittings	
EMT	see pages 164-174
Rigid/IMC	see pages 175-198
Conduit Outlet Bodies	
Series 5	see pages 199-204
Form 5	see pages 205-208
FS/FD	see pages 209-210
Hubs	see pages 211-219
Liquidtight	see pages 224–235
AC/MC	see pages 241-245
FMC	see pages 246-254
Non-metallic Sheathed	see page 255
Service Entrance	see pages 256-259
Stainless Steel Products	see pages 265-276
Hot Dip Galvanized Products	see pages 277-293
Product of the USA Fittings	see pages 294–301
Outliet Bosses 0 October	000 pages 20 : 00 :
Outlet Boxes & Covers Outlet Box Technical Data	200 0000 204 206
4" Steel Square Boxes and Covers	see pages 304–306
4 ¹¹ / ₁₆ " Steel Square Boxes and Covers	see pages 307–316
Steel Utility Boxes and Covers	see pages 317–321
Steel Switch Boxes and Covers	see page 322
Steel Gang Boxes and Covers	see pages 323-330
	see pages 331–332
Steel October Royce & Royce	see pages 333-334
Steel Octagon Boxes & Pans	see pages 335-338
Steel Octagon Covers	see pages 339-340
Steel Octagon Concrete Boxes	see pages 341–342
Ceiling Fan Boxes	see pages 343-344
Outlet Box Accessories	see pages 345-346
PVC Switch and Outlet Boxes	see pages 347-350
Non-metallic Ceiling and Fan Boxes	see pages 351-353
PRE-formance™	see pages 354-374
Weatherproof Products (boxes, covers, vaporproof lighting)	see pages 375-390
Enclosures	001 000
W-Series Junction Boxes	see pages 391–399
Conduit Expansion Joints	see pages 220-223
Fiberglass	see pages 401–429
HomeRunner™	see page 400
Solar	
Solar Combiner Boxes	see pages 430-436
Solar Pass Through Boxes	see page 437
Solar Cord Grips, Clips & Ties	see pages 438-440

Set Screw Type Fittings - Steel

SET SCREW TYPE FITTINGS

Features:

- Tri-head screws may be installed using a slotted, phillips or Robertson head screwdriver
- Male Hub Threads NPSM
- Steel Locknuts
- Heavy Steel Walls
- Standard Material: Steel
- Standard Finish: Zinc Plated
- Concrete Tight when taped

Straight Connectors - Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
1450	1/2"	50	9
1451	3/4"	25	14
1452	1"	20	23
1453*	11/4"	10	46
1454*	11/2"	10	50
1455*	2"	5	78
1456*†	21/2"	2	130
1457*†	3"	1	140
1458*†	31/2"	1	180
1459*†	4"	1	225

*Two Tightening Screws †UL and cUL Listed for EMT, IMC and Rigid Conduit

Straight Connectors - Non-Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
450S	1/2"	50	9	
451	3/4"	25	15	
452	1"	20	23	
453*	11/4"	10	46	
454*	11/2"	10	50	
455*	2"	5	77	
456*†	21/2"	2	130	
457*†	3"	1	140	
458*†	31/2"	1	180	
459*†	4"	1	225	

*Two Tightening Screws †UL and cUL Listed for EMT, IMC and Rigid Conduit

Couplings

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
460	1/2"	50	9	
461	3/4"	25	16	
462	1"	20	23	
463*	11/4"	10	42	
464*	11/2"	10	50	
465*	2"	5	77	
466*†	21/2"	2	130	
467*†	3"	1	140	
468*†	31/2"	1	240	
469*†	4"	1	250	

*Four Tightening Screws †UL and cUL Listed for EMT, IMC and Rigid Conduit

Set Screw Type Fittings - Space-Saver

SPACE-SAVER EMT SET-SCREW **CONNECTORS - STEEL**

UL File No. E22132

Applications:

• Use to join EMT conduit to box or enclosure

Features:

- Male threads on locknut allow for more room inside the box
- Smooth pulling surface won't strip cable no bushing or insulated
- · Angled teeth on locknut bite into enclosure, preventing loosening from vibration
- · Knurled wrenching surface for easy tightening
- Zinc electroplated for corrosion resistance
- · Concrete tight when taped

SET-SCREW CONNECTOR

· Tri-head set screw may be installed using a slotted, Phillips, or Robertson head screwdriver

Certifications and Compliances:

- UL Listed
- cUL Listed



Eaton's Crouse-Hinds Space Saver EMT Connector provides maximum useable space inside the box unlike a traditional connector with bushing.



Traditional EMT inside box and creates the cumbersome and labor intensive need to clip the device mounting screw to install device.



The Space Saver connector protrudes EMT Connector's low profile design eliminates this cumbersome and labor intensive requirement.







Set Screw Type Connector

Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
Set Screw Connect	or		
SSBC50	1/2"	100	8
SSBC75	3/4"	50	12
SSBC100	1"	25	12

Set Screw Type Fittings - Zinc Die Cast

SET SCREW TYPE FITTINGS – ZINC DIE CAST

Features:

- Tri-head set screw may be installed using a slotted, Phillips or Robertson head screwdriver
- Concrete tight when taped
- Threadless

Standard Materials:

• Zinc

Standard Finishes:

Natural

Straight Connectors - Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
1450DC	1/2"	50	5
1451DC	3/4"	25	8
1452DC	1"	25	11
1453DC*	11/4"	10	20
1454DC*	11/2"	10	25
1455DC*	2"	5	37
1456DC*	21/2"	12	59
1457DC*	3"	12	78
1458DC*	31/2"	6	101
1459DC*	4"	6	120

^{*}Two Tightening Screws

Straight Connectors - Non-Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
450DC	1/2"	50	5
451DC	3/4"	25	7
452DC	1"	25	11
453DC*	11/4"	10	21
454DC*	11/2"	10	25
455DC*	2"	5	36
456DC*	21/2"	12	58
457DC*	3"	12	77
458DC*	31/2"	6	98
459DC*	4"	6	117

^{*}Two Tightening Screws

Couplings

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
460DC	1/2"	50	5	
461DC	3/4"	25	7	
462DC	1"	20	13	
463DC*	11/4"	10	18	
464DC*	11/2"	10	28	
465DC*	2"	5	36	
466DC*	21/2"	12	64	
467DC*	3"	12	81	
468DC*	31/2"	6	98	
469DC*	4"	6	116	

^{*}Four Tightening Screws

Offset Connectors - Non-Insulated







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
2400	1/2"	10	11	
2401	3/4"	10	18	
2402	1"	10	25	

Compression Type Fittings - Steel

COMPRESSION TYPE FITTINGS - STEEL

Applications:

Thinwall conduit fittings are used:

- To join EMT to a box or enclosure
- To couple two ends of EMT conduit

Features:

- Compression Type
- Threadless
- Male Hub Threads NPSM
- Steel Locknuts
- · Heavy Steel Walls
- Standard Material: Steel
- Standard Finish: Zinc Plated

Concrete Tight Straight Connectors - Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
1650	1/2"	50	11	
1651	3/4"	25	16	
1652	1"	25	25	
1653	11/4"	10	43	
1654	11/2"	10	54	
1655	2"	5	76	
1656	21/2"	2	190	
1657	3"	1	300	
1658	31/2"	1	330	
1659	4"	1	360	

Straight Connectors - Non-Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
650S	1/2"	50	9	
651S	3/4"	25	16	
652	1"	25	25	
653	11/4"	10	43	
654	11/2"	10	54	
655	2"	5	76	
656	21/2"	2	190	
657	3"	1	300	
658	31/2"	1	280	
659	4"	1	360	

Couplings







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
660S	1/2"	50	12	
661S	3/4"	25	18	
662	1"	25	27	
663	11/4"	10	46	
664	11/2"	10	63	
665	2"	5	92	
666	21/2"	2	250	
667	3"	1	410	
668	31/2"	1	390	
669	4"	1	485	

Compression Type Fittings - Space Saver

SPACE-SAVER EMT COMPRESSION **CONNECTORS - STEEL**

UL File No. E22132

Applications:

• Use to join EMT conduit to box or enclosure

Features:

- Male threads on locknut allow for more room inside the box
- Smooth pulling surface won't strip cable no bushing or insulated
- · Angled teeth on locknut bite into enclosure, preventing loosening from vibration
- Knurled wrenching surface for easy tightening
- Zinc electroplated for corrosion resistance
- · Concrete tight when taped

COMPRESSION CONNECTOR

- · The split compression ring assures solid attachment to the conduit and good ground continuity
- · The hex surface on the compression nut provide for easy wrenching to quickly and easily tighten the nut

Certifications and Compliances:

- UL Listed
- cUL Listed



Eaton's Crouse-Hinds Space Saver EMT Connector provides maximum useable space inside the box unlike a traditional connector with bushing.



Traditional EMT inside box and creates the cumbersome and labor intensive need to clip the device mounting screw to install device.



The Space Saver connector protrudes EMT Connector's low profile design eliminates this cumbersome and labor intensive requirement.



Compression Connector

Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100			
Compression Co	Compression Connector					
SSC50	1/2"	50	8			
SSC75	3/4"	25	12			
SSC100	1"	25	12			

SPACE-SAVER EMT RAINTIGHT **COMPRESSION CONNECTORS - STEEL**

UL File No. E22132

Applications:

• Use to join EMT conduit to box or enclosure

Features:

- The only Space Saver EMT Compression Connector UL Listed raintight
- Male threads on the lock nut maximize space in box or enclosure and provide a smooth pulling surface, eliminating the need for a bushing or insulated throat fitting
- No disassembly of the gland nut is required for installation of the
- · Hex shaped gland nut allows for easy wrenching, providing a fast, tight application
- Distinct black gland nut allows inspectors to tell at a glance that the fitting is raintight
- Gasket seals installation for raintight connection between box and

Certifications and Compliances:

- UL Listed UL Standard 514B
- cUL Listed cUL Standard C22.2 No. 18
- Listed Raintight
- · Concrete Tight









Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	Dim A	Dim. B
Compression	n Connect	or			
SSRT50	1/2"	50	13	1 1/8	13/8
SSRT75	3/4"	25	18	13/8	1 5/8
SSRT100	1"	25	26	1 11/ ₁₆	1 13/ ₁₆

Compression Type Fittings - Raintight

COMPRESSION TYPE FITTINGS -RAINTIGHT CONNECTORS

Applications:

- Eaton's Crouse-Hinds Raintight EMT Connectors are used to join EMT conduit to a box or enclosure in raintight environments
- The design prevents water seepage into conduit, box or enclosure

Features and Benefits:

- All steel construction with zinc electroplate finish provides for durable corrosion resistance
- · Flat surface on gland nut provides smooth, flat surface for easy
- Distinct black gland nut provides quick raintight identification
- Integral gasketed compression ring secures and seals for reliable
- · Interior shoulder conduit stop provides positive seating of conduit inside the body
- Gasket on male threads of box connector seals installation for raintight connection between the box and the connector
- · Available in insulated and non-insulated versions to meet any customer preference
- · Angled teeth on locknut for secure bite into enclosure
- Extruded locknut with shoulder provides more threads for more secure installation
- · Concrete tight
- Threadless
- Standard material: Steel
- · Standard finish: Zinc plated

Certifications and Compliances:

- UL Listed
- cUL Listed
- Concrete Tight
- Raintight

Straight Connectors - Insulated - Raintight

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
1650RT	1/2"	50	11	
1651RT	3/4"	25	17	
1652RT	1"	25	23	
1653RT	11/4"	10	41	
1654RT	11/2"	10	50	
1655RT	2"	5	67	
1656RT	21/2"	2	177	
1657RT	3"	1	234	
1658RT	31/2"	1	330	
1659RT	4"	1	360	

Straight Connectors - Non-Insulated - Raintight

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
650RT	1/2"	50	11	
651RT	3/4"	25	17	
652RT	1"	25	23	
653RT	11/4"	10	41	
654RT	11/2"	10	50	
655RT	2"	5	67	
656RT	21/2"	2	177	
657RT	3"	1	234	
658RT	31/2"	1	280	
659RT	4"	1	360	

Couplings - Raintight







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
660RT	1/2"	50	14	
661RT	3/4"	25	21	
662RT	1"	25	28	
663RT	11/4"	10	49	
664RT	11/2"	10	60	
665RT	2"	5	79	
666RT	21/2"	2	187	
667RT	3"	1	245	
668RT	31/2"	1	390	
669RT	4"	1	485	

Compression Type Fittings - Zinc Die Cast

COMPRESSION TYPE FITTINGS – ZINC DIE CAST

Features:

- The split compression ring assures solid attachment to the conduit and good ground continuity
- The hex surfaces on the compression nut provide for easy wrenching to quickly and easily tighten the nut
- Concrete tight

Standard Materials:

• Zinc

Standard Finishes:

Natural

Straight Connectors - Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
1650DC	1/2"	50	8
1651DC	3/4"	25	11
1652DC	1"	15	17
1653DC	11/4"	10	31
1654DC	11/2"	10	39
1655DC	2"	5	56
1656DC	21/2"	12	93
1657DC	3"	12	120
1658DC	31/2"	6	149
1659DC	4"	6	172

Straight Connectors - Non-Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
650DC	1/2 "	50	8
651DC	3/4"	25	11
652DC	1"	15	17
653DC	11/4"	10	31
654DC	11/2"	10	39
655DC	2"	5	56
656DC	21/2"	12	93
657DC	3"	12	120
658DC	31/2"	6	149
659DC	4"	6	172

Couplings







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
660DC	1/2"	50	11
661DC	3/4"	25	16
662DC	1"	15	22
663DC	11/4"	10	40
664DC	11/2"	10	48
665DC	2"	5	64
666DC	21/2"	12	124
667DC	3"	12	144
668DC	31/2"	6	190
669DC	4"	6	228

Combination Couplings

COMBINATION COUPLINGS – STEEL Standard Materials:

Steel

Standard Finishes:

Zinc plated

EMT (Set Screw) to Rigid (Set Screw)

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
420	1/2"	25	17
421	3/4"	20	25
422	1"	10	37

COMBINATION COUPLINGS - STEEL

Concrete Tight

EMT (Compression) To Rigid (Threaded)

UL File No. F-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
690S	1/2" - 1/2"	25	9
691	3/4" - 3/4"	20	13
692	1" - 1"	10	19

COMBINATION COUPLINGS - ZINC DIE CAST

EMT (Set Screw) to FMC (Clamp)

UL File No. E-19189



Cat. #

by FIT-N



Unit Qty.



Wt. Lbs. Per 100

780DC	1/2" - 3/8"	50	8
FLEXIBL	E METAL	LIC CO	MBINATION

Set Screw Squeeze Type EMT (Set Screw) To FMC (Clamp)

COUPLINGS - ZINC DIE CAST

Size

UL File No. E-19189





Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FECS38DC	1/2" to 3/8"	50	34
FECS50DC	1/2" to 1/2"	25	22
FECS75DC	3/4" to 3/4"	25	36

FECS75DC %" to %" 25 Crouse-Hinds

Compression Coupling EMT (Compression) To FMC (Screw-in)

UL File No. E-19189





Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FECC50DC	1/2"	50	41
FECC75DC	3/4"	25	31
FECC100DC	1"	25	46

ACC SERIES COMBINATION COUPLINGS - STEEL

Applications:

 ACC combination couplings are used to join EMT conduit to armored cable, metal clad cable or flexible metallic conduit.

Features and Benefits:

- Dual gripping saddle design on the coupling safely secures cable or conduit in place and prevents loosening from vibration
- Steel compression ring & nut provide a strong, secure termination point for EMT conduit.
- Tri-head set screw may be installed using a slotted, Phillips or Robertson head screwdriver.
- Steel combination coupling is zinc electroplated for corrosion resistance.

Certifications and Compliances:

- UL Listed
- cUL Listed

Materials and Finishes:

- Body: Steel Zinc electroplated
- Saddle: Steel Zinc electroplated
- Screw: Steel Zinc electroplated

Compression Coupling:

AC/MC, FMC to EMT



		Cable O	pening	
Cat. #	Trade Size	Max.	Min.	Unit Qty.
ACC38	3/8"	0.656	0.437	25
ACC50	1/2"	0.937	0.750	10
ACC75	3/,"	1 125	0.006	10

Set-Screw Coupling:



Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
ACCSS38*	3/8"	25	9
ACCSS50	1/2"	10	12
ACCSS75	3/4"	10	14
*not UL Listed			

EMT ELBOWS WITH INTEGRAL COUPLING

Applications:

 Used to make a 45° or 90° bend between two lengths of thin-wall or EMT conduit without the use of additional couplings

Features:

- Curvature of the conduit is used to fit specific locations and/or make turns or change directions
- Concrete tight when taped
- EMT elbows have integral set-screw couplings that replace traditional EMT coupling fittings used to connect the elbows to conduit so there is no longer a need for additional components or extra steps in installation – saving the contractor time and money!
- Made of steel and zinc plated for corrosion resistance
- Pre-set and staked tri-head screws are positioned on inside of elbow bend for easy access during installation
- ½ to 1" elbows supplied with one set screw on each end, 1¼ to 4" elbows supplied with two set screws on each end
- 21/2 to 4" trade sizes supplied with protective end caps

Certifications and Compliances:

- UL Listed
- cUL Listed

EMT Elbows with Integral Coupling







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
90 Degree Elbow ELB5090 ELB7590 ELB10090 ELB12590 ELB15090 ELB20090 ELB25090* ELB35090* ELB35090* ELB36090* ELB40090*	1/2" 3/4" 1" 11/4" 11/2" 2" 2" 3" 31/2" 4"	50 50 20 20 15 10 1	28 46 78 150 184 250 526 738 1086
45 Degree Elbow ELB5045 ELB7545 ELB10045 ELB12545 ELB15045 ELB20045 ELB25045* ELB30045* ELB35045* ELB35045* ELB40045*	1/2" 3/4" 1" 11/4" 11/2" 2" 21/2" 3" 3 -1/2" 4"	50 50 20 20 15 10 1 1	20 36 59 100 153 181 381 517 674 873

^{*}Supplied with protective end caps.

EMT ELBOWS

Applications:

 Used to make a 45° or 90° bend between two lengths of thin-wall or EMT conduit

Features

- Curvature of the conduit is used to fit specific locations and/or make turns or change directions
- · Concrete tight when taped
- Made of steel and zinc plated for corrosion resistance

Certifications and Compliances:

- UL Listed
- cUL Listed

EMT Elbows







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
90 Degree Elbow EL5090 EL7590 EL10090 EL12590 EL15090 EL20090 EL25090 EL35090 EL35090 EL35090 EL40090	1/2" 3/4" 1" 1 1/4" 1 1/2" 2" 2 1/2" 3 1/2" 4 "	50 50 20 20 10 10 50 35 35 35	30 49 84 152 196 288 484 701 1076 1285
45 Degree Elbow EL5045 EL7545 EL10045 EL12545 EL15045 EL20045 EL25045 EL30045 EL35045 EL35045 EL30045	1/2" 3/4" 1" 1 1/4" 1 1/2" 2" 2 1/2" 3 1/2" 4 "	50 50 35 30 15 15 50 35 35 35	20 33 61 126 155 227 390 515 756 1097

Pulling Elbows, Straps, Clamps, Clampbacks/Spacers

90 DEGREE PULLING ELBOWS - ZINC DIE CAST

Applications:

- To connect EMT to form a 90° bend, or to connect EMT to box or enclosure
- Removable cover and gasket facilitate wire pulling

EMT To Box

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
850EB DC	1/2"	20	17
875EB DC	3/4"	15	24
8100EB DC	1"	6	54
8125EB DC	11/4"	3	80

EMT To EMT

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
850EE DC	1/2"	20	15
875EE DC	3/4"	15	22
8100EE DC	1"	6	52
8125EE DC	11/4"	3	80

CLAMPBACKS/SPACERS - MALLEABLE IRON Applications:

• Provides space between conduit and mounting surface

Standard Materials:

- Stamped Steel 1/2" 11/2"
- Malleable Iron 2" 6"

Standard Finishes:

• Zinc plated

UL File No. E-184283







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
CB1*	1/2"	25	8	
CB2*	3/4"	25	10	
CB3*	1"	25	12	
CB4*	11/4"	25	21	
CB5*	11/2"	25	42	
CB6	2"	10	40	
CB7	21/2"	10	49	
CB8	3"	10	62	
CB9	31/2"	10	91	
CB10	4"	10	110	
CB11†	5"	5	135	
CB12†	6"	5	225	

†Not UL Listed *Stamped steel

Crouse-Hinds by FAT•N

STRAPS - STEEL GALVANIZED

Two Hole

UL File No. E-184283





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
497 1	1/2"	250	2	
497 2	3/4"	150	3	
497 3	1"	100	5	,
497 4	11/4"	50	8	
497 5	11/2"	50	13	
497 6	2"	25	14	
496 9	21/2"	25	19	
496 10	3"	25	23	
496 11	31/2"	25	93	
496 12	4"	10	108	

CLAMPS - MALLEABLE IRON

UL File No. E-184283







Cat. #	Size	Qty.	Per 100	
516*	21/2"	5	104	
517*	3"	2	120	
518*	31/2"	2	150	
519*	4"	2	220	

^{*}Also for use with Rigid/IMC Conduit

CLAMPS "SNAP-ON" - STEEL Applications:

• To support EMT conduit to mounting surface

Heavy Gauge







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
200	1/2"	100	5
201	3/4"	100	6
202	1"	100	6
203	11/4"	50	13
204	11/2"	25	17
205	2"	25	20
206*	21/2"	25	64
207*	3"	25	71
208*	31/2"	10	120
209*	4"	10	130
*Not UL Listed			

Nailing Straps - Steel

NAILING STRAPS - CAST STEEL

Thin Wall Conduit Fittings

Applications:

To secure EMT conduit, flexible metallic conduit, armored cable and metal clad cable to mounting surface

Standard Materials:

Cast steel

Standard Finishes:

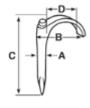
Zinc plated



	Conduit	Sizes		
Cat. #	EMT	Rigid	Wt. Lbs. Per 100	
NS 1	1/2"	3/8"	2	
NS 2	3/4"	1/2"	2	
NS 3	1"	3/4"	3	

Dimensions

Cat. #	Α	В	С	D
NS 1	3/16	1	17/8	3/4
NS 2	3/4	11/4	2	15/16
NS 3	3/16	11/2	21/2	1 1/8



NAILING STRAPS - STAMPED STEEL

Applications:

• To secure EMT conduit

Certifications:

• UL File No. E184283

Standard Materials:

• Pre-galvanized stamped steel





Conduit Sizes

Cat. #	EMT	Rigid	Unit Qty.	Wt. Lbs. Per 100	
NSS1	1/2"	3/8"	100	2	
NSS2	3/4"	1/2"	100	2	
NSS3	1"	3/4"	100	3	

Compression Fittings - Type CPR

TYPE CPR COMPRESSION FITTINGS Applications:

Use type CPR compression fittings for:

- Both IMC and metallic rigid conduit.
- · New work in poured concrete.
- · Maintenance, repairs and alterations.
- Connections at panels and boxes.
- · New, altered or damaged stubups.
- Applicable locations where field threading is impractical or undesirable.

Features and Benefits:

- UL Listed for use with IMC as well as metallic rigid conduit
- Unequalled versatility for the installer
- Unique gland ring design tightens up in fewer turns; provides outstanding pull-out strength; saves time and adds confidence
- Advanced, thoughtful design and premium materials team up for an installation you can be proud of
- Concrete tight
- Threadless

Certifications and Compliances:

• UL 514B Fittings for Conduit and Outlet Boxes

Standard Materials:

- Bodies malleable iron
- Compression nuts iron
- Compression rings zinc plated steel
- Locknuts zinc plated steel
- Insuliners glass-reinforced polypropylene











Straight Connectors - Insulated

UL File No. E-19189







		Unit	Wt. Lbs.	
Cat. #	Size	Qty.	Per 100	
CPR11	1/2"	50	19	
CPR12	3/4"	25	23	
CPR13	1"	10	42	
CPR14	11/4"	10	64	
CPR15	11/2"	5	87	
CPR16	2"	5	113	
CPR17	21/2"	2	130	
CPR18	3"	1	220	
CPR19	31/2"	1	280	
CPR20	4"	1	320	

Straight Connectors - Non-Insulated

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
CPR1	1/2"	50	19
CPR2	3/4"	25	23
CPR3	1"	10	42
CPR4	11/4"	10	64
CPR5	11/2"	5	87
CPR6	2"	5	113
CPR7	21/2"	2	130
CPR8	3"	1	220
CPR9	31/2"	1	280
CPR10	4"	1	320

Couplings







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
CPR21	1/2"	25	26
CPR22	3/4"	20	38
CPR23	1"	10	59
CPR24	11/4"	5	85
CPR25	11/2"	5	124
CPR26	2"	2	162
CPR27	21/2"	2	220
CPR28	3"	1	320
CPR29	31/2"	1	380
CPR30	4"	1	440

Set Screw Type Fittings - Malleable

SET SCREW TYPE FITTINGS - MALLEABLE

Standard Materials:

- Malleable 1/2"-2", 5", 6"
- Steel 21/2"-4"

Straight Connectors - Insulated

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
150S	1/2"	50	16
151	3/4"	25	27
152	1"	5	40
153	11/4"	10	50
154	11/2"	5	76
155*	2"	2	110
1456*	21/2"	2	210
1457*	3"	1	282
1458*	31/2"	1	380
1459*	4"	1	400
160I*	5"	1	850
161I*	6"	1	1100

^{*}Two Tightening Screws

Straight Connectors - Non-Insulated

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
150P	1/2"	50	16
151P	3/4"	25	26
152P	1"	5	40
153P	11/4"	10	50
154P	11/2"	5	76
155P*	2"	2	110
456*	21/2"	2	210
457*	3"	1	281
458*	31/2"	1	380
459*	4"	1	400
160P*	5"	1	850
161P*	6"	1	1100

^{*}Two Tightening Screws

Couplings

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
160	1/2"	25	27
161	3/4"	20	40
162	1"	5	52
163	11/4"	10	70
164	11/2"	5	104
165*	2"	2	160
466*	21/2"	2	300
467*	3"	1	400
468*	31/2"	1	500
469*	4"	1	600
170C*	5"	1	1500
171C*	6"	1	1800
*F T: 1 1			

*Four Tightening Screws

 $1456-1459,\,456-459$ & 466-469 are UL and cUL Listed for EMT, Rigid, and IMC conduit.

Rigid/Intermediate Grade Conduit Fittings Concrete Tight

Set Screw Type Fittings - Raintight (SSR Series)

SET SCREW TYPE FITTINGS - RAINTIGHT

Applications:

Rainboot[™] connectors and couplings are used with rigid conduit for IMC, steel or aluminum. Outdoors or indoors. Use Rainboot fittings for

- · Conduit systems expansion and alterations.
- · Maintenance and repair operations.
- · New, altered or damaged stubups.
- · Connections at panels and boxes.
- Embedment in concrete.
- Installations in tight quarters: near corners, walls, ceilings, overhangs, obstacles or adjacent raceways.
- Situations where threading equipment or heavy pipe wrenches are impractical.
- · Conduit systems in NEC wet locations.

Features and Benefits:

- The only line of rigid/IMC threadless fittings suitable for raintight applications.
- The only alternative to field threading in NEC wet locations.
- May be installed in any position.
- Tough and durable, long lasting, trouble free installations.
- Requires only a 3/8" wrench for installation.
- Full line 1/2" through 2".
- Faster, easier method to install raintight rigid/IMC raceway systems.

Certifications and Compliances:

• UL 514B - Fittings for cable and conduit

Standard Materials:

- Bodies
 Connectors ½" 2" steel
 Couplings ½" 2" steel
- Boots injection molded PVC attached with special epoxy.
- Setscrews hardened steel coated with special sealing resin compound.



Straight Connectors – Insulated



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
SSR11	1/2"	20	20	
SSR12	3/4"	20	30	
SSR13	1"	20	40	
SSR14	11/4"	5	64	
SSR15	11/2"	5	85	
SSR16	2"	4	97	

Straight Connectors – Non-Insulated



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
SSR1	1/2"	20	21	
SSR2	3/4"	20	23	
SSR3	1"	20	40	
SSR4	11/4"	5	64	
SSR5	11/2"	5	85	
SSR6*	2"	4	96	

^{*}Two Tightening Screws For sealing at enclosure, use Type SG sealing gaskets

Couplings



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
SSR21	1/2"	20	31	
SSR22	3/4"	20	45	
SSR23	1"	5	64	
SSR24	11/4"	5	86	
SSR25	11/2"	4	116	
SSR26†	2"	4	165	

†Four Tightening Screws

Split Conduit Couplings and Combination Couplings

SPLIT CONDUIT COUPLINGS

Applications:

 Provides a quick and easy method of joining two pieces of threaded rigid or IMC conduit.

Features:

- Concrete Tight
- Suitable for use in Class I, Division 2 Areas

Body – Ductile Iron Clamping Hardware – Electrogalvanized Steel Gasket-Neoprene







		Llada	W/A I h a	
Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
TCC1	1/2"	10	39	
TCC2	3/4"	10	45	
TCC3	1"	10	68	
TCC4	11/4"	5	82	
TCC5	11/2"	5	116	
TCC6	2"	5	111	
TCC7	21/2"	2	283	
TCC8	3"	2	323	
TCC9	31/2"	1	395	
TCC10	4"	1	506	
TCC12	5"	1	944	
TCC14	6"	1	1218	

COMBINATION COUPLINGS - STEEL

Concrete Tight EMT (Compression) To Rigid (Threaded) UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
690S	1/2" - 1/2"	25	9	
691	3/4" - 3/4"	20	13	
692	1" – 1"	10	19	

COMBINATION COUPLINGS - ZINC PLATED STEEL

Concrete Tight

EMT (Set Screw) To Rigid (Set Screw) UL File No. E-19189





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
420	1/2" - 1/2"	25	17	
421	3/4" - 3/4"	20	25	
422	1" – 1"	10	37	

COMBINATION COUPLINGS - MALLEABLE IRON

Flexible Steel (Squeeze Type) To Rigid (Threaded) UL File No. E-19189





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
65	1/2" - 1/2"	10	17	
66	3/4" - 3/4"	10	22	
67	1" – 1"	5	31	
68	11/4" - 11/4"	5	31	

Conduit Couplings

THREE PIECE CONDUIT COUPLINGS - MALLEABLE IRON

Applications:

 Used to join two lengths of threaded conduit. Couples conduit when conduit cannot be turned.

Standard Materials:

· Heavy duty casting

Standard Finishes:

Zinc Plated

Options:

Suffix Mechanically galvanized HDG

Malleable Iron (Concrete Tight)

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
190M	1/2"	25	23
191	3/4"	25	35
192	1"	10	60
193	11/4"	5	91
194	11/2"	5	167
195	2"	5	215
196	21/2"	2	430
197	3"	1	463
198	31/2"	1	655
199	4"	1	800
188	5"	1	1200
189	6"	1	2100

NO-DISASSEMBLY RAINTIGHT THREE PIECE CONDUIT COUPLINGS - STEEL

Applications:

- Used to join two lengths of rigid and IMC conduit together in applications where conduit cannot be turned.
- Unique design allows for a quick and easy install which translates into labor savings when compared with traditional fittings.

Features:

- Manufactured out of steel to provide mechanical protection and solid grounding of one conduit to another
- Zinc electroplated design which protects against corrosion in damp locations
- No Disassembly design which allows for the pairing of two pieces of conduit without the hassle of taking apart the fitting. Conduit is input on each end of the coupling and the locknut is tightened down to provide quick and easy raintight seal
- Neoprene rubber O-ring which prevents against the penetration of water or moisture
- RoHS compliant
- Allows for direct burial without tape

Standard Materials:

Steel

Standard Finishes:

Zinc electroplated

Steel

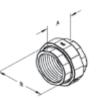




Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
190RTQ	1/2"	125	23	
191RTQ	3/4"	100	29	
192RTQ	1"	64	48	
193RTQ	11/4"	48	65	
194RTQ	11/2"	32	97	
195RTQ	2"	24	138	

Dimensions

Difficitions				
Cat. #	Α	В		
190RTQ	1 ⁷ / ₁₆	1 ⁵ / ₈		
191RTQ	1 11/16	19/16		
192RTQ	13/ ₄	1 15/16		
193RTQ	13/ ₄	25/16		
194RTQ	1 13/16	213/16		
195RTQ	21/16	35/16		



Conduit Couplings and Rigid Elbows

RIGID CONDUIT COUPLINGS - STEEL

Applications:

• Used to join two lengths of threaded rigid or IMC conduit. They can be used in both indoor and outdoor applications

Standard Materials:

Galvanized steel

Galvanized steel

UL File No. E-25501







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
RC50	1/2"	10	12	
RC75	3/4"	10	18	
RC100	1"	10	29	
RC125	11/4"	5	38	
RC150	11/2"	5	52	
RC200	2"	5	69	
RC250	21/2"	2	181	
RC300	3"	1	220	
RC350	31/2"	1	377	
RC400	4"	1	298	
RC500	5"	1	477	
RC600	6"	1	684	

RIGID ELBOWS - STEEL

Applications:

 Used in conjunction with rigid couplings (CCH catalog numbers RC50-RC400) to make a 45° or 90° bend between two lengths of threaded rigid or IMC conduit.

Features:

- Curvature of the conduit is used to fit specific locations and/or make turns or change directions in the installation
- Can be used in both indoor and outdoor applications, offering the customer increased flexibility
- Made of steel and galvanized for corrosion resistance

Certifications and Compliances:

- UL Listed
- cUL Listed

Rigid Elbows







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
90 Degree Elbow RLB5090 RLB7590 RLB10090 RLB12590 RLB15090 RLB20090 RLB35090 RLB35090 RLB35090 RLB35090 RLB35090	1/2" 3/4" 1" 11/4" 11/2" 2" 21/2" 3" 31/2" 4"	50 50 20 20 10 10 1 1	76 113 197 312 440 660 1180 1650 2700 3300
45 Degree Elbow RLB5045 RLB7545 RLB10045 RLB12545 RLB15045 RLB20045 RLB25045 RLB30045 RLB35045 RLB35045 RLB35045 RLB35045	1/2" 3/4" 1" 11/4" 11/2" 2" 21/2" 3" 31/2" 4"	50 50 25 20 15 10 1 1	70 103 161 236 306 470 800 1301 1601 2101

Mogul Pulling Elbows

MOGUL PULLING ELBOWS - DIE CAST COPPER-FREE ALUMINUM

Applications:

- Used as a chamber for containing heavy-duty conductors
- For use as a chamber for containing a 90° turn in large stiff conductors to change conductor direction or to enter buildings
- For use as a pull box for pulling large conductors
- For use as a chamber for making splices and taps
- Can be used as an accessible opening to accommodate future changes of the system

Features & Benefits:

- Large dome cover permits easy, straight through pull
- Dimension from center-line of back hub to bushing of end hub exceeds six times the trade diameter of the conduit
- Tapered threads provide easy assembly, tight construction
- · Heavy-duty machine screws for cover
- Cover gasket provides long dependable service and protection against the elements; such as fuel, oil and water
- · Smooth design and finish make handling easy and complement any construction job
- Body and Cover: Die-cast copper-free aluminum
- Gasket-Fuel, oil, and water resistant flex seal

Certifications & Compliances:

UL Standard: 514ANEC: Article 314CSA C22.2 No. 18CEC: 22.1

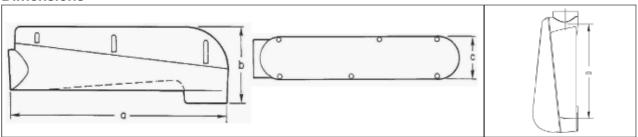
Standard Finishes:

· Corrosion-resistant metallic paint

Ordering Information

		Dimens	sions					
Catalog No.	Size	Α	В	С	D	Max Wire Size	Unit Qty.	Wt. Lbs Per 100
LBNEC3	1"	921/32"	317/32"	21/2"	71/2"	2 AWG	2	146
LBNEC4	11/4"	921/32"	317/32"	21/2"	71/2"	2 AWG	2	132
LBNEC5	11/2"	14 ¹⁷ / ₃₂ "	513/32"	31/8"	121/20"	250 kcmil	1	258
LBNEC6	2"	1417/32"	513/32"	31/8"	121/20"	250 kcmil	1	230
LBNEC7	21/2"	22"	717/32"	41/2"	185/32"	500 kcmil	1	1003
LBNEC8	3"	22"	717/32"	41/2"	185/32"	500 kcmil	1	938
LBNEC9	31/2"	2827/32"	815/16"	51/2"	241/8"	900 kcmil	1	2158
LBNEC10	4"	2827/32"	815/16"	51/2"	241/8"	900 kcmil	1	2060

Dimensions







Eaton's Crouse-Hinds mogul pulling elbows facilitate wire pulling in 90° bends to allow changes in conductor direction. The pulling elbows can also be used to allow conductor entrance into buildings. With the smooth finish and large dome cover, wires can be easily pulled through without compromising the wire insulation. The gasketed cover creates a raintight chamber and the copper-free aluminum construction provides increased corrosion resistance, making the mogul pulling elbow ideal for any outdoor application.

90° Pull Elbows

90 DEGREE PULL ELBOWS – MALLEABLE IRON

Features:

- Raintight
- · Furnished with Neoprene gasketed steel cover
- Furnished with Steel lock nut
- Furnished with Stamped Steel cover
- Threaded for rigid conduit and IMC
- For outdoor use
- · Standard Finish: Zinc plated

Gasketed -Rigid to Box (Male To Female)

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
810	1/2"	20	34
811	3/4"	10	56
812	1"	5	88
813	11/4"	2	92
814	11/2"	2	200
815	2"	1	344

Rigid to Rigid (Female To Female)

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
820	1/2"	20	36
821	3/4"	10	49
822	1"	5	94
823	11/4"	2	140
824	11/2"	2	200
825	2"	1	344

90 DEGREE PULL ELBOWS – ZINC DIE CAST

Applications:

- For connecting threaded rigid or IMC to form a 90° bend, or for connecting rigid or IMC to box or enclosure
- Removable cover and gasket facilitate wire pulling

Standard Materials:

- Body zinc
- Gasket neoprene
- Cover aluminum

Gasketed - Rigid to Box (Male To Female)

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. per 100
850RB DC	1/2"	20	17
875RB DC	3/4"	15	25
8100RB DC	1"	6	53
8125RB DC	11/4"	3	80

Rigid to Rigid (Female To Female)

UL File No. E-19189







Size	Unit Qty.	Wt. Lbs. Per 100
1/2"	20	15
3/4"	15	23
1"	6	50
11/4"	3	80
	1/2" 3/4" 1"	Size Qty. 1/2" 20 3/4" 15 1" 6

Combo EMT - Rigid/IMC





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
850MT DC 875MT DC 8100MT DC	1/2" 3/4" 1 "	20 15 6	15 23 50
8125MT DC	11/4"	3	80

Insulating and Throat Bushings

THROAT BUSHINGS - MALLEABLE IRON

Threaded 105°C Rated Plastic Throat Liner

UL File No. E-19189







Insulated

Cat. #	C:	Unit	Wt. Lbs.
Insulated	Size	Qty.	Per 100
1031	1/2"	100	3
1032	3/4"	100	4
1033	1"	50	7
1034	11/4"	50	15
1035	11/2"	10	19
1036	2"	20	22
1037	21/2"	10	44
1038	3"	10	54
1039	31/2"	5	72
1040	4"	5	95
1041	5"	1	100
1042	6"	1	127

Threadless 105°C Rated Plastic Throat Liner

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
S1031	1/2"	100	3	
S1032	3/4"	100	4	
S1033	1"	50	7	
S1034	11/4"	50	15	
S1035	11/2"	10	19	
S1036	2"	20	22	
S1037	21/2"	10	44	
S1038	3"	10	54	
S1039	31/2"	5	72	
S1040	4"	5	95	
S1041	5"	1	100	
S1042	6"	1	127	

INSULATED THROAT BUSHINGS - MALLEABLE IRON

Features:

 Plastic liner will not chip, crack, swell or shrink. It resists corrosion, chemicals and temperature extremes.

Standard Materials:

- Body Malleable Iron
- Insuliner ULTEM1000 rated at 150°C

Standard Finishes:

Body - Zinc Plated

150°C Rated

Threaded

UL File No. E-19189







	Trade	Unit	Wt. Lbs.	
Cat. #	Size	Qty.	per 100	
H1031	1/2"	100	6	
H1032	3/4"	100	8	
H1033	1"	50	11	
H1034	11/4"	50	14	
H1035	11/2"	10	17	
H1036	2"	20	24	
H1037	21/2"	10	51	
H1038	3"	10	62	
H1039	31/2"	5	85	
H1040	4"	5	104	
H1041	5"	1	130	
H1042	6"	1	167	

INSULATED THROAT BUSHINGS

150°C Rated

Threadless Set Screw Type UL File No. E-19189







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
HS1031	1/2"	100	6	
HS1032	3/4"	100	7	
HS1033	1"	50	10	
HS1034	11/4"	50	13	
HS1035	11/2"	10	15	
HS1036	2"	20	21	
HS1037	21/2"	10	42	
HS1038	3"	10	51	
HS1039	31/2"	5	65	
HS1040	4"	5	80	
HS1041	5"	1	100	
HS1042	6"	1	128	

Insulated Bushings

INSULATED THROAT BUSHINGS - ZINC DIE CAST

150°C Rated - Zinc Die Cast

Threaded UL File No. E-19189







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. per 100
H1031DC	1/2"	100	2
H1032DC	3/4"	100	3
H1033DC	1"	50	5
H1034DC	11/4"	50	7
H1035DC	11/2"	20	9
H1036DC	2"	10	11
H1037DC	21/2"	10	27
H1038DC	3"	5	33
H1039DC	31/2"	5	39
H1040DC	4"	2	46

NON-INSULATED THROAT BUSHINGS - MALLEABLE IRON

Features:

 Used with locknut to terminate threaded rigid conduit or IMC to enclosure

Threaded



Non-Insulated

Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
1031NI	1/2"	100	3
1032NI	3/4"	100	4
1033NI	1"	50	7
1034NI	11/4"	50	15
1035NI	11/2"	10	19
1036NI	2"	20	22
1037NI	21/2"	10	44
1038NI	3"	10	54
1039NI	31/2"	5	72
1040NI	4"	5	95

NON-INSULATED THROAT BUSHINGS - ZINC DIE CAST

Features:

 Used with locknut to terminate threaded rigid conduit or IMC to enclosure

Threaded







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. per 100
1031DC	1/2"	100	2
1032DC	3/4"	100	3
1033DC	1"	50	5
1034DC	11/4"	50	7
1035DC	11/2"	20	9
1036DC	2"	10	10
1037DC	21/2"	10	26
1038DC	3"	5	32
1039DC	31/2"	5	37
1040DC	4"	2	43

INSULATING BUSHINGS Standard Materials:

• Plastic





Rated 105°C Cat. #	Rated 150°C Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
931	H 931	1/2"	50	1
932	H 932	3/4"	50	1
933	H 933	1"	50	2
934	H 934	11/4"	50	3
935	H 935	11/2"	25	3
936	H 936	2"	25	4
937	H 937	21/2"	10	8
938	H 938	3"	10	10
939	H 939	31/2"	5	11
940	H 940	4"	5	11
941		5"	5	40
942		6"	5	42

Grounding Bushings

INSULATED THROAT GROUNDING BUSHINGS - MALLEABLE IRON

Applications:

• For use on threaded rigid/IMC conduit to provide a means of grounding conduit through an insulated bushing

105°C Rated Plastic Throat Liner Aluminum Lug - For Copper Or Aluminum **Grounding Conductors - Threaded**

UL File No. E-6225





Cat. #	Trade Size	Lug Size	Unit Qty.	Wt. Lbs. Per 100
GLL1	1/2"	#4 – #14	50	5
GLL2	3/4"	#4 – #14	50	9
GLL3	1"	#4 – #14	50	12
GLL4	11/4"	#4 – #14	25	19
GLL4 10	11/4"	#1/0 - #8	25	23
GLL5	11/2"	#4 – #14	10	24
GLL5 10	11/2"	#1/0 - #8	10	28
GLL6	2"	#4 – #14	10	26
GLL6 10	2"	#1/0 - #8	10	32
GLL7	21/2"	#1/0 - #8	10	53
GLL7 30	21/2"	#3/0 - #6	10	60
GLL7 250	21/2"	250MCM - #6	10	67
GLL8	3"	#1/0 - #8	5	70
GLL8 30	3"	#3/0 - #6	5	72
GLL8 250	3"	250MCM - #6	5	76
GLL9	31/2"	#3/0 - #6	1	100
GLL9 250	31/2"	250MCM - #6	1	100
GLL10	4"	#3/0 - #6	1	110
GLL10 250	4"	250MCM - #6	1	120
GLL11	5"	#3/0 - #6	1	140
GLL11 250	5"	250MCM - #6	1	143
GLL12	6"	#3/0 - #6	1	160
GLL12 250	6"	250MCM - #6	1	163

105°C Rated Plastic Throat Liner Copper Lug - For Copper Grounding Conductors -**Threaded**

(P)







	Trade	Lug	Unit	Wt. Lbs.
Cat. #	Size	Size	Qty.	Per 100
GLL1C	1/2"	#4 – #14	50	8
GLL2C	3/4"	#4 – #14	50	12
GLL3C	1"	#4 – #14	50	14
GLL4 10C	11/4"	#4 – #14	25	19
GLL4C	11/4"	#1/0 - #8	25	30
GLL5 10C	11/2"	#4 - #14	10	21
GLL5C	11/2"	#1/0 - #8	10	32
GLL6C	2"	#4 - #14	10	29
GLL6 10C	2"	#1/0 - #8	10	40
GLL7C	21/2"	#1/0 - #8	10	65
GLL7 30C	21/2"	#3/0 - #6	10	88
GLL7 250C	21/2"	250MCM - #6	10	97
GLL8C	3"	#1/0 - #8	5	77
GLL8 30C	3"	#3/0 - #6	5	100
GLL8 250C	3"	250MCM - #6	5	109
GLL9C	31/2"	#3/0 - #6	1	125
GLL9 250C	31/2"	250MCM - #6	1	134
GLL10C	4"	#3/0 - #6	1	145
GLL10 250C	4"	250MCM - #6	1	154
GLL11C	5"	#3/0 – #6	1	165
GLL11 250C	5"	250MCM - #6	1	174
GLL12C	6"	#3/0 – #6	1	195
GLL12 250C	6"	250MCM - #6	1	204

Grounding Bushings

INSULATED THROAT GROUNDING BUSHINGS - MALLEABLE IRON

Applications:

 For use on threaded rigid/IMC conduit to provide a means of grounding conduit through an insulated bushing

Aluminum Lug – For Copper Or Aluminum Grounding Conductors – Threadless – Set Screw Type 105°C Rated Plastic Throat Liner

UL File No. E-6225





Cat. #	Trade Size	Lug Size	Unit Qty.	Wt. Lbs. Per 100
GLS1	1/2"	#4 - #14	50	5
GLS2	3/4"	#4 – #14	50	9
GLS3	1"	#4 - #14	50	12
GLS4	11/4"	#4 - #14	25	19
GLS4 10	11/4"	#1/0 – #8	25	23
GLS5	11/2"	#4 – #14	10	24
GLS5 10	11/2"	#1/0 – #8	10	28
GLS6	2"	#4 – #14	10	26
GLS6 10	2"	#1/0 – #8	10	32
GLS7	21/2"	#1/0 – #8	10	53
GLS7 30	21/2"	#3/0 – #6	10	60
GLS7 250	21/2"	250MCM - #6	10	67
GLS8	3"	#1/0 – #8	5	70
GLS8 30	3"	#3/0 – #6	5	72
GLS8 250	3"	250MCM - #6		76
GLS9	31/2"	#3/0 – #6	1	100
GLS9 250	31/2"	250MCM - #6	1	100
GLS10	4"	#3/0 – #6	1	110
GLS10 250	4"	250MCM - #6	1	120
GLS11	5"	#3/0 – #6	1	140
GLS11 250	5"	250MCM - #6	1	143
GLS12	6"	#3/0 – #6	1	160
GLS12 250	6"	250MCM - #6	1	163

Copper Lug – For Copper Grounding Conductors – Threadless – Set Screw Type 105°C Rated Plastic Throat Liner





Cot #	Trade	Lug	Unit	Wt. Lbs.
Cat. #	Size	Size	Qty.	Per 100
GLS1C	1/2"	#4 – #14	50	8
GLS2C	3/4"	#4 – #14	50	12
GLS3C	1"	#4 – #14	50	14
GLS4C	11/4"	#4 - #14	25	19
GLS4 10C	11/4"	#1/0 - #8	25	30
GLS5C	11/2"	#4 - #14	10	21
GLS5 10C	11/2"	#1/0 - #8	10	32
GLS6C	2"	#4 – #14	10	29
GLS6 10C	2"	#1/0 - #8	10	40
GLS 7C	21/2"	#1/0 – #8	10	65
GLS7 30C	21/2"	#3/0 - #6	10	88
GLS7 250C	21/2"	250MCM - #6	10	97
GLS8C	3"	#1/0 – #8	5	77
GLS8 30C	3"	#3/0 - #6	5	100
GLS8 250C	3"	250MCM - #6	5	109
GLS9C	31/2"	#3/0 – #6	1	125
GLS9 250C	31/2"	250MCM - #6	1	134
GLS10C	4"	#3/0 – #6	1	145
GLS10 250C	4"	250MCM - #6	1	154
GLS11C	5"	#3/0 – #6	1	165
GLS11 250C	5"	250MCM - #6	1	174
GLS12C	6"	#3/0 – #6	1	195
GLS12 250C	6"	250MCM - #6	1	204

Grounding Bushings

INSULATED THROAT GROUNDING BUSHINGS - MALLEABLE IRON

Features:

- Resilient plastic liner, resists corrosion, chemicals and temperature extremes
- Insuliner ULTEM1000 rated at 150°C
- 1 Set screw provided with each fitting locks bushing in any desired position
- External stainless steel hardware as standard

Standard Finishes:

Zinc Plated

150°C Rated

Aluminum Lug - For Copper Or Aluminum **Grounding Conductors - Threaded**

UL File No. E-6225







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Cat. #	Trade Size	Lug Size	Unit Qty.	Wt. Lbs Per 100
HGLL 1	1/2"	#4 – #14	50	9
HGLL 2	3/4"	#4 - #14	50	11
HGLL 3	1"	#4 - #14	50	14
HGLL 4	11/4"	#4 - #14	25	17
HGLL4 10	11/4"	#1/0 - #8	25	24
HGLL 5	1 1/2"	#4 - #14	10	20
HGLL5 10	11/2"	#1/0 - #8	10	24
HGLL 6	2"	#4 – #14	10	27
HGLL6 10	2"	#1/0 - #8	10	31
HGLL 7	21/2"	#1/0 - #8	10	58
HGLL7 30	21/2"	#3/0 - #6	10	67
HGLL7 250	21/2"	250MCM - #6	10	70
HGLL 8	3"	#1/0 – #8	5	69
HGLL8 30	3"	#3/0 - #6	5	78
HGLL8 250	3"	250MCM - #6	5	81
HGLL 9	31/2"	#3/0 – #6	1	101
HGLL9 250	31/2"	250MCM - #6	1	104
HGLL 10	4"	#3/0 - #6	1	120
HGLL10 250	4"	250MCM - #6	1	123
HGLL 11	5"	#3/0 – #6	1	145
HGLL 11 250	5"	250MCM - #6	1	150
HGLL 12	6"	#3/0 - #6	1	185
HGLL 12 250	6"	250MCM - #6	1	186

150°C Rated

Copper Lug - For Copper Grounding Conductors -**Threaded**

UL File No. E-6225







المرائعة

	Trade	Lug	Unit	Wt. Lbs.
Cat. #	Size	Size	Qty.	Per 100
HGLL1C	1/2"	#4 – #14	50	12
HGLL2C	3/4"	#4 – #14	50	14
HGLL3C	1"	#4 - #14	50	17
HGLL4C	11/4"	#4 - #14	25	20
HGLL4 10C	11/4"	#1/0 - #8	25	32
HGLL5C	11/2"	#4 - #14	10	23
HGLL5 10C	11/2"	#1/0 - #8	10	35
HGLL 6C	2"	#4 - #14	10	30
HGLL6 10C	2"	#1/0 - #8	10	42
HGLL7C	21/2"	#1/0 - #8	10	69
HGLL7 30C	21/2"	#3/0 - #6	10	92
HGLL7 250C	21/2"	250MCM - #6	10	101
HGLL8C	3"	#1/0 - #8	5	80
HGLL8 30C	3"	#3/0 - #6	5	103
HGLL8 250C	3"	250MCM - #6	5	112
HGLL9C	31/2"	#3/0 - #6	1	126
HGLL9 250C	31/2"	250MCM - #6	1	135
HGLL10C	4"	#3/0 - #6	1	145
HGLL10 250C	4"	250MCM - #6	1	155
HGLL 11C	5"	#3/0 - #6	1	171

#3/0 - #6

250MCM - #6

250MCM - #6

INSULATED THROAT GROUNDING **BUSHINGS - ZINC DIE CAST**

5"

6"

6"

150°C Rated Plastic Throat Liner **Aluminum Lug – for Copper or Aluminum Grounding Conductors**

UL File No. E-6225

HGLL 12C

HGLL11 250C

HGLL 12 250C







180

210

317

0-1 #	Trade	Unit	Wt. Lbs.
Cat. #	Size	Qty.	Per 100
GLL1 DC	1/2"	50	3
GLL2 DC	3/4"	40	4
GLL3 DC	1"	25	5
GLL4 DC	11/4"	25	9
GLL5 DC	11/2"	25	10
GLL6 DC	2"	10	14
GLL7 DC	21/2"	5	25
GLL8 DC	3"	5	33
GLL9 DC	31/2"	4	38
GLL10 DC	4"	4	44

Grounding Bushings

INSULATED THROAT GROUNDING BUSHINGS - MALLEABLE IRON

150°C Rated

Set Screw Type – Aluminum Lug – For Copper Or Aluminum

Grounding Conductors - Threadless

UL File No. E-6225









Cat. #	Trade Size	Lug Size	Unit Qty.	Wt. Lbs. Per 100
HGLS1	1/2"	#4 - #14	50	9
HGLS2	3/4"	#4 – #14	50	10
HGLS3	1"	#4 – #14	50	13
HGLS4	11/4"	#4 – #14	25	16
HGLS4 10	11/4"	#1/0 - #8	25	20
HGLS5	11/2"	#4 - #14	10	18
HGLS5 10	11/2"	#1/0 - #8	10	22
HGLS6	2"	#4 – #14	10	24
HGLS6 10	2"	#1/0 - #8	10	28
HGLS7	21/2"	#1/0 - #8	10	50
HGLS7 30	21/2"	#3/0 - #6	10	58
HGLS7 250	21/2"	250MCM - #6	10	60
HGLS8	3"	#1/0 - #8	5	58
HGLS8 30	3"	#3/0 - #6	5	67
HGLS8 250	3"	250MCM - #6	5	70
HGLS9	31/2"	#3/0 - #6	1	80
HGLS9 250	31/2"	250MCM - #6	1	85
HGLS10	4"	#3/0 - #6	1	90
HGLS10 250	4"	250MCM - #6	1	100
HGLS11	5"	#3/0 - #6	1	115
HGLS11 250	5"	250MCM - #6	1	120
HGLS12	6"	#3/0 - #6	1	145
HGLS12 250	6"	250MCM - #6	1	150

Features:

- Resilient plastic liner resists corrosion, chemicals and temperature extremes
- Insuliner ULTEM1000 rated at 150°C
- 2 Set-screws provided with each fitting, locks bushings in any desired position

Standard Finishes:

• Body - Zinc Plated

150°C Rated

Set Screw Type – Copper Lug – For Copper Grounding Conductors – Threadless







Cat. #	Trade Size	Lug Size	Unit Qty.	
HGLS1C	1/2"	#4 - #14	50	12
HGLS2C	3/4"	#4 – #14	50	13
HGLS3C	1"	#4 – #14	50	16
HGLS4C	11/4"	#4 - #14	25	19
HGLS4 10C	11/4"	#1/0 - #8	25	31
HGLS5C	11/2"	#4 - #14	10	21
HGLS5 10C	1 1/2"	#1/0 - #8	10	33
HGLS6C	2"	#4 - #14	10	27
HGLS6 10C	2"	#1/0 - #8	10	39
HGLS7C	21/2"	#1/0 - #8	10	60
HGLS7 30C	21/2"	#3/0 - #6	10	83
HGLS7 250C	21/2"	250MCM - #6	10	92
HGLS8C	3"	#1/0 - #8	5	70
HGLS8 30C	3"	#3/0 - #6	5	92
HGLS8 250C	3"	250MCM - #6	5	100
HGLS9C	31/2"	#3/0 - #6	1	105
HGLS9 250C	31/2"	250MCM - #6	1	115
HGLS10C	4"	#3/0 - #6	1	100
HGLS10 250C	4"	250MCM - #6	1	130
HGLS11C	5"	#3/0 - #6	1	140
HGLS11 250C	5"	250MCM - #6	1	150
HGLS12C	6"	#3/0 - #6	1	170
HGLS12 250C	6"	250MCM - #6	1	180

Bushing Pennies and Nailing Straps

BUSHING PENNIES - STEEL

Applications:

 A penny under a bushing will seal the end of conduit during construction.



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
90	1/2"	100	1	
91	3/4"	100	1	
92	1"	100	1	
93	11/4"	50	1	
94	11/2"	50	2	
95	2"	50	3	
96	21/2"	50	5	
97	3"	50	7	
98	31/2"	50	10	
99	4"	50	14	

NAILING STRAPS - CAST STEEL

Standard Materials:

Cast Steel

Standard Finishes:

• Zinc plated

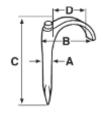
Support rigid conduit and IMC to mounting surface



	Conduit	Sizes			
Cat. #	EMT	Rigid	Unit Qty.	Wt. Lbs. Per 100	
NS 1	1/2"	3/8"	100	2	
NS 2	3/4"	1/2"	100	2	
NS 3	1"	3/4"	100	3	

Dimensions In Inches:

Cat. #	Α	В	С	D
NS 1	3/16	1	17/8	3/4
NS 2 NS 3	3/ ₄ 3/ ₁₆	11/ ₄ 11/ ₂	2 2½	15/ ₁₆ 1 1/ ₈



NAILING STRAPS - STAMPED STEEL

Applications:

• To secure Rigid/IMC conduit

Certifications:

• UL File No. E184283

Standard Materials:

• Pre-galvanized stamped steel



	Conduit	Sizes			
Cat. #	EMT	Rigid	Unit Qty.	Wt. Lbs. Per 100	
NSS1	1/2"	3/8"	100	2	
NSS2	3/4"	1/2"	100	2	
NSS3	1"	3/4"	100	3	

Conduit Clamps, Straps, Hangers

CLAMPS - MALLEABLE IRON

Applications:

• To support rigid conduit and IMC to mounting surface

Options:

Description Hot dipped galvanized Suffix HDG

UL File No. E-184283







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
510	1/2"	100	6	
511	3/4"	50	8	
512	1"	50	13	
513	11/4"	25	20	
514	11/2"	20	30	
515	2"	10	64	
516*	21/2"	5	104	
517*	3"	2	120	
518*	31/2"	2	150	
519*	4"	2	220	
520†	5"	1	380	
521†	6"	1	690	

*Also for use with Thinwall (EMT) Conduit †Not UL Listed

CLAMPBACKS/SPACERS -MALLEABLE IRON

Applications:

• To provide space between conduit and mounting surface

Standard Materials:

- Stamped Steel 1/2" 11/2"
- Malleable Iron 2" 6"

Options:

Hot dipped galvanized

Suffix HDG

Description UL File No. E-184283







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
CB1*	1/2"	25	8	
CB2*	3/4"	25	10	
CB3*	1"	25	12	
CB4*	11/4"	25	21	
CB5*	11/2"	25	42	
CB6	2"	10	40	
CB7	21/2"	10	49	
CB8	3"	10	62	
CB9	31/2"	10	91	
CB10	4"	10	110	
CB11†	5"	5	135	
CB12†	6"	5	225	

†Not UL Listed *Stamped steel

STRAPS - STEEL GALVANIZED

Applications:

• Used to secure rigid conduit or IMC to mounting surface

UL File No. E-184283





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
496 2	3/8"	250	2
496 3	1/2"	150	2
496 4	3/4"	100	3
496 5	1"	50	7
496 6	11/4"	50	8
496 7	11/2"	50	10
496 8	2"	25	15
496 9	21/2"	25	19
496 10	3"	25	23
496 11	31/2"	25	93
496 12	4"	10	108

CLAMPS "SNAP-ON" - STEEL

Applications:

• To support rigid conduit and IMC to mounting surface

Light Gauge



Cat. #	Conduit Sizes Rigid	Size of Strap Inside	Unit Qty.	Wt. Lbs. Per 100	
566	1/4"	.540	500	2	
567	3/8"	.675	200	2	

Heavy Gauge







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
410*	1/2"	100	5
411*	3/4"	50	6
412*	1"	50	11
413*	11/4"	50	13
414	11/2"	25	20
415	2"	25	22
206*	21/2"	25	64
207*	3"	25	71
208*	31/2"	10	120
209*	4"	10	130
*CSA Certified			

Conduit Clamps, Straps, Hangers

CABLE AND CONDUIT HANGERS - STEEL

Certifications and Compliances:

• UL Listed

With Bolt





Cat. #	Conduit Size EMT	Conduit Sizes Rigid	Unit Qty.	Wt. Lbs. Per 100	
0B	1/2"	3/8" & 1/2"	100	6	
1B	3/4"	3/4"	100	6	
2B	1"	1"	100	8	
2 1/2 B	11/4"	_	100	10	
3B	11/2"	11/4"	100	11	
4B	_	11/2"	100	16	
5B	2"	2"	50	23	
6B	21/2"	21/2"	50	29	
7B	3"	3"	25	31	
8B	31/2"	31/2"	10	38	
9B	4"	4	10	38	

CABLE AND CONDUIT HANGERS - STEEL

Applications:

Used to provide mechanical support to conduit and raceway systems

Certifications and Compliances:

- UL Listed
- cUL Listed

With Extruded Hole and Bolt







Cat. #	Description	Qty.	Wt. Lbs. Per 100
0BX	3/8 AND 1/2 RGD 1/2 EMT	100	6
1BX	3/4 RGD 3/4 EMT	100	7
2BX	1 RGD 1 EMT	100	11
2 1/2BX	1 1/4 EMT	100	10
3BX	1 1/4 RGD 1 1/2 EMT	100	13
4BX	1 ½ RGD	100	16
5BX	2 RGD 2 EMT	50	17

BEAM CLAMPS/INSULATOR SUPPORTS - MALLEABLE IRON

Standard Finishes:

Zinc Plated

UL File No. E-184283







Cat. #	Base Size	Jaw Open	Max. Wt. Support	Tapped Holes	Unit Qty.	Wt. Lbs. Per 100
528	3/4"	5/8"	50	10 – 24	25	14
529	3/4"	5/8"	50	1/4" - 20	25	13
530	1"	3/4"	60	10 - 24	25	23
531	1"	3/4"	60	1/4" - 20	25	24
532	11/2"	3/4"	80	⁵ / ₁₆ " – 18	50	47
533	2"	7/8"	100	³/ ₈ " – 16	25	81
534	21/2"	7/8"	200	1/2" - 13	25	155

BEAM CLAMPS/INSULATOR SUPPORTS - STEEL



Cat. #	Base Size	Jaw Opening	Tapped Holes	Unit Qty.	Wt. Lbs. Per 100	
529 S	3/4"	5/, "	1/4" - 20	50	13	

CONDUIT CLAMPS - RIGHT ANGLE TYPE - MALLEABLE IRON

Applications:

- Right Angle to attach the conduit run at a 90° angle to a beam or structural member
- Paralled Type to attach the conduit run parallel to a beam or structural member







Cat. #	Trade Size	Load Rating Lbs.	Wt. Lbs. Per 100
RAC50HD	1/2"	30	37
RAC75HD	3/4"	50	40
RAC100HD	1"	60	42
RAC125HD	11/4"	75	49
RAC150HD	11/2"	80	54
RAC200HD	2"	100	71
RAC250HD	21/2"	125	95
RAC300HD	3"	165	107
RAC350HD	31/2"	200	120
RAC400HD	4"	330	131

Conduit Clamps, Straps, Hangers

PARALLEL TYPE CONDUIT CLAMPS - ELECTROGALVANIZED IRON







Cat. #	Trade Size	Load Rating Lbs.	Wt. Lbs. Per 100
PARC50HD	1/2"	30	50
PARC75HD	3/4"	50	53
PARC100HD	1"	60	60
PARC125HD	11/4"	75	70
PARC150HD	11/2"	80	82
PARC200HD	2"	100	132
PARC250HD	21/2"	125	192
PARC300HD	3"	165	194
PARC350HD	31/2"	200	216
PARC400HD	4"	330	232

EDGE TYPE CONDUIT CLAMPS - ELECTROGALVANIZED IRON

Applications:

 Edge Type – to attach the conduit run at a 90° angle to a thin beam or structural member







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
ETC50HD	1/2"	50	63
ETC75HD	3/4"	50	69
ETC100HD	1"	50	82
ETC125HD	11/4"	25	95
ETC150HD	11/2"	25	108
ETC200HD	2"	25	121
ETC250HD	21/2"	25	153
ETC300HD	3"	10	214

J TYPE CONDUIT BEAM CLAMPS - IRON

Features:

JCC Series conduit beam clamps are:

- Available in 1/2" to 4" sizes
- Suitable for IMC, EMT and rigid conduit
- Designed to exceed UL load requirements
- Made from ductile iron with an electrogalvanized finish
- Designed to support conduit on vertical or horizontal beams

UL File No. E-184283







Cat. #	Size	Max. Weight Support	Jaw Opening	Unit Qty.	Wt. Lbs. Per 100	
JCC1	1/2"	150	1 15/16"	25	35	
JCC2	3/4"	150	1 15/16"	25	43	
JCC34	1" & 11/4"	225	1 15/16"	10	90	
JCC56	11/2" & 2"	300	1 15/16"	5	190	
JCC78	21/2" & 3"	500	1 15/16"	2	380	
JCC910	31/2" & 4"	700	1 15/16"	2	575	

HEAVY-DUTY CONDUIT U-BOLTS WITH HEX NUTS - ELECTROGALVANIZED IRON







Cat. #	Trade Size	Thread Size	Unit Qty.	Wt. Lbs. Per 100
UBM50HD	1/2"	⁵ / ₁₆ " – 18	200	12
UBM75HD	3/4"	⁵ / ₁₆ " – 18	200	14
UBM100HD	1"	⁵ / ₁₆ " – 18	100	17
UBM125HD	11/4"	⁵ / ₁₆ " – 18	50	19
UBM150HD	11/2"	⁵ / ₁₆ " – 18	50	21
UBM200HD	2"	³/s" - 16	50	28
UBM250HD	21/2"	³/ ₈ " – 16	25	37
UBM300HD	3"	³/s" - 16	25	42
UBM350HD	31/2"	³/ ₈ " – 16	20	46
UBM400HD	4"	³/ ₈ " – 16	20	51

Conduit Locknuts

CONDUIT LOCKNUTS

3/8" - 2" Steel, 21/2" - 6" Malleable Iron

UL File No. E-19189







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
10	3/8"	100	1	
11	1/2"	100	1	
12	3/4"	100	2	
13	1"	50	3	
14	11/4"	100	4	
15	11/2"	50	5	
16	2"	50	7	
17	21/2"	20	10	
18	3"	10	15	
19	31/2"	10	18	
20	4"	5	22	
22	5"	2	79	
23	6"	1	166	

THIN CONSTRUCTION LOCKNUTS - STEEL



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
11X	1/2"	500	1	
12X	3/4"	100	1	
13X	1"	50	3	
14X	11/4"	100	3	
15X	11/2"	50	4	
16X	2"	50	4	
17X	21/2"	25	10	
18X	3"	20	15	
19X	31/2"	10	18	
20X	4"	10	22	

CONDUIT LOCKNUTS - ALUMINUM







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
11 SA	1/2"	100	1	
12 SA	3/4"	100	1	
13 SA	1"	50	1	
14 SA	11/4"	100	2	
15 SA	11/2"	50	2	
16 SA	2"	50	3	
17 SA	21/2"	20	9	
18 SA	3"	10	13	
19 SA	31/2"	10	16	
20 SA	4"	5	52	

CONDUIT LOCKNUTS - ZINC DIE CAST





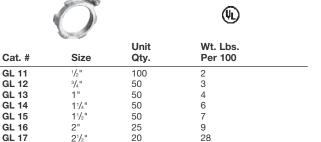


Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
11DC	1/2"	400	1	
12DC	3/4"	250	1	
13DC	1"	100	2	
14DC	11/4"	60	3	
15DC	11/2"	50	5	
16DC	2"	30	8	
17DC	21/2"	20	10	
18DC	3"	15	15	
19DC	31/2"	10	16	
20DC	4"	10	19	

GROUNDING LOCKNUTS - STEEL Applications:

 For use with bushing to bond ½" to 4" rigid conduit to boxes, cabinets or other enclosures, only where a locknut is exposed.

UL File No. E-6225



38

48

SELF RETAINING PVC GASKET WITH STEEL RING

10

10

5

UL File no. E-22133

3"

31/2"

GL 18

GL 19







-				
Cat. #	Conduit Size	Unit Qty.	Wt. Lbs. Per 100	
SG1	3/8" - 1/2"	100	1	
SG2	3/4"	50	2	
SG3	1"	50	2	
SG4	11/4"	25	2	
SG5	11/2"	25	4	
SG6	2"	25	3	
SG7	21/2"	10	5	
SG8	3"	10	10	
SG9	31/2"	10	12	
SG10	4"	10	10	
SG11	5"	5	15	
SG12	6"	5	22	

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Rigid/Intermediate Grade Conduit Fittings

Sealing Locknuts

SEALING LOCKNUTS

Applications

Only one Sealing Locknut is required to:

- Functionally replace rigid threaded enclosure connectors.
- Provide raintight, watertight, or oiltight seal in any position.
- Provide positive ground connection.
- Provide economies in installation and fitting costs.

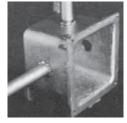
Features And Benefits:

- Integrally fused PVC gasket provides positive seal against water, oils and other liquids.
- Designed for use with raintight, watertight and oiltight enclosures, NEMA 2, 3, 3R, 4 and 12.
- UL Listed Raintight.
- UL Listed Liquidtight.
- Can be used with either sheet metal or standard cast metal boxes.
- · CSA Certified watertight.
- 1/2" 2" Heavy-duty steel.
- 21/2" 6" Malleable iron.
- U.S. Patent #4022262











Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
SL1	1/2 "	100	1	
SL2	3/4"	50	2	
SL3	1"	25	4	
SL4	11/4"	25	4	
SL5	11/2"	25	5	
SL6	2"	25	8	
SL7	21/2"	10	28	
SL8	3"	10	38	
SL9	31/2"	10	46	
SL10	4"	5	52	
SL11	5"	2	125	
SL12	6"	1	140	

Galvanized Rigid Conduit Nipples

GALVANIZED RIGID CONDUIT NIPPLES - STEEL

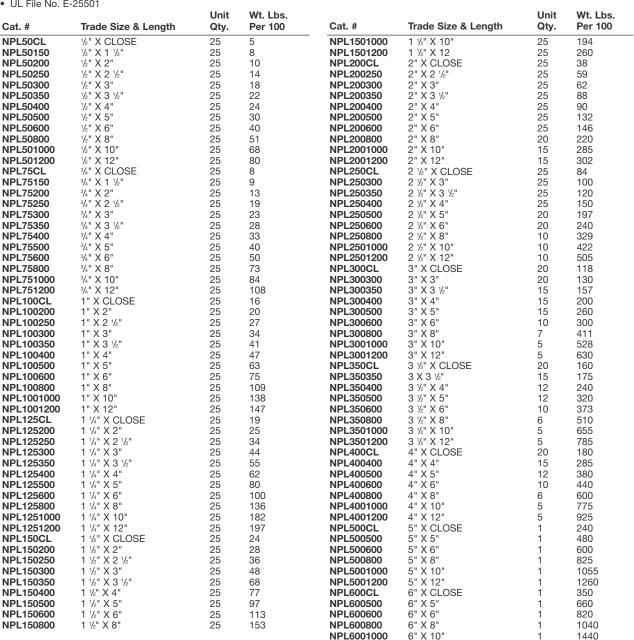
Features:

- Designed for use with threaded rigid conduit
- NPT threads with end-cap on each end

Certifications and Compliances:

- cULus Listed
- Galvanized Rigid Nipples meet UL6 and ANSI C80.1
- UL File No. E-25501







6" X 12

NPL6001200

1720

Conduit Bushed (Chase) Nipples Offset Conduit Nipples

CONDUIT BUSHED (CHASE) NIPPLES - MALLEABLE IRON AND ZINC DIE CAST

Malleable Iron and Zinc Die Cast

Non-Insulated and Insulated Threaded NPSM for rigid conduit and IMC

UL File No. E-19189







Applications:

- Used thru knockout to connect box to conduit coupling.
- Used with a locknut to connect two boxes side by side or back to back.
- Used with a locknut to connect fixture housing to continuous runs.

Cat. # Non-insulated Malleable Iron	Cat. # Insulated Malleable Iron	Cat. # Non-insulated Zinc Die Cast	Size	Unit Qty.	Wt. Lbs. Per 100 Non-insulated Malleable Iron	Wt. Lbs. Per 100 Insulated Malleable Iron	Wt. Lbs. Per 100 Non-insulated Zinc Die Cast
50*	1050*	50D	1/2"	50	3	3	4
51	1051	51D	3/4"	25	8	4	5
52	1052	52D	1"	10	13	11	10
53	1053	53D	11/4"	10	19	19	11
54	1054	54D	11/2"	10	30	30	20
55	1055	55D	2"	10	37	37	30
56	1056	56D	21/2"	5	68	72	40
57	1057	57D	3"	5	92	96	49
58	1058	58D	31/2"	1	130	113	68
59	1059	59D	4"	1	200	187	70
60†	1060		5"	1	350	350	
61†	1061		6"	1	425	450	
*Steel †Not UL Listed							

OFFSET CONDUIT NIPPLES – MALLEABLE IRON AND ZINC DIE CAST

Features:

- Threaded NPSM for rigid conduit and IMC
- Standard Finish on Malleable Iron: Zinc Plated
- $\bullet\,$ USE: To offset the axis of raceways $^{3}\!/_{\!\!4}$ of an inch

UL File	No.	E-191	89
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Cat. # Malleable	Cat. # Zinc Die Cast	Size	Unit Qty.	Wt. Lbs. Per 100	
300	300DC	1/2"	25	24	
301	301DC	3/4"	25	34	
302	302DC	1"	10	49	
303	303DC	11/4"	10	54	
	304DC	11/2"	5	40	
	305DC	2"	2	60	

Push Plugs, Snap-In Blanks, Reducing Washers

PUSH PLUGS - PLASTIC*



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
PPC 50	1/2"	100	1
PPC 75	3/4"	100	1
PPC 100	1"	50	1
PPC 125	11/4"	50	1
PPC 150	11/2"	25	1
PPC 200	2"	25	1
PPC 250	21/2"	100	2
PPC 300	3"	100	3
PPC 350	31/2"	50	6
PPC 400	4"	50	8

^{*}Temperature Rating: 180° – 200°F Tensile Strength: 600 – 2300 PSI

KNOCKOUT REDUCING WASHERS -



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
342	3/4" - 1/2"	100	1
343	1" - 1/2"	100	2
344	1" - 3/4"	100	2
345	11/4" - 1/2"	100	3
346	11/4" - 3/4"	100	2
347	11/4" – 1"	100	2
348	11/2" - 1/2"	50	5
349	11/2" - 3/4"	50	4
350S	11/2 - 1"	50	4
351	11/2 - 11/4"	50	3
352	2" - 1/2"	50	7
353	2" - 3/4	50	7
354	2" – 1"	50	6
355	2" - 11/4"	50	5
356	2" - 11/2"	50	3
360	21/2" - 1/2"	25	7
361	21/2" - 3/4"	25	7
362	21/2" - 1"	25	7
363	21/2" - 11/4"	25	7
364	21/2" - 11/2	25	7
365	21/2" - 2"	25	7
366	3" - 1"	25	14
367	3" - 11/4"	25	14
368	3" - 11/2"	25	14
369	3" – 2"	25	14
370 S	3" - 21/2"	25	14
371	31/2" - 11/2"	25	25
372	31/2" - 2"	25	25
373	31/2" - 21/2"	25	25
374	31/2" - 3"	25	25
375	4" – 2"	25	35
376	4" - 21/2"	25	35
377	4" - 3"	25	35
378	4" - 31/2"	25	35

KNOCKOUT SNAP-IN BLANKS - STEEL



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
335	1/2"	100	2	
336	3/4"	100	2	
337	1"	50	2	
338	11/4"	50	3	
339	11/2"	50	5	
340	2"	20	7	

CONCRETE SLAB INSERTS - 90 DEGREE

Application:

- For use with Rigid and IMC
- For conduit installed in poured concrete slabs
- 90 Degree design eliminates the need to bend conduit
- Provides flush threaded conduit hub for connecting Rigid and IMC conduit and allows future access to conduit system
- Used in in-slab ceiling & floor poured applications

Standard Materials:

• Zinc Die Cast









Cat. #	EMT	Qty.	Per 100
ESL75	3/4"	5	41
ESL100	1"	5	57

Dimensions In Inches:

Cat. #	Α	В	С	D	Е	F	G
ESL75	4.55	3.72	3.49	3.15	2.13	1.14	0.20
ESL100	4.68	3.84	3.46	3.10	2.44	1.47	0.19



Reducers & Plugs

CONDUIT REDUCERS - STEEL/IRON







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
Steel 251 252 253 254 255 260 261 262 263 268 269 270 S 275 276 281	$3/4^{n} - 1/2^{n}$ $1^{n} - 1/2^{n}$ $1^{n} - 1/2^{n}$ $1^{1}/4^{n} - 1/2^{n}$ $1^{1}/4^{n} - 1/2^{n}$ $1^{1}/2^{n} - 1/2$ $2^{n} - 1/2^{n}$ $1^{n} - 3/4^{n}$ $1^{1}/4^{n} - 3/4^{n}$ $1^{1}/2^{n} - 3/4^{n}$ $1^{1}/2^{n} - 3/4^{n}$ $1^{1}/2^{n} - 1^{n}$ $1^{1}/2^{n} - 1^{n}$ $1^{1}/2^{n} - 1^{n}$ $1^{1}/2^{n} - 1^{1}/4^{n}$ $2^{n} - 1^{1}/4^{n}$ $2^{n} - 1^{1}/4^{n}$ $2^{n} - 1^{1}/4^{n}$	50 25 10 10 5 25 10 10 5 10 10 5 10 5	4 13 30 43 83 7 23 40 79 18 27 66 13 24 27
Iron 282 283 285 288 289 290M 291 292 293 294 295 296 297 298	2 ¹ / ₂ " - 1" 2 ¹ / ₂ " - 1 ¹ / ₄ " 2 ¹ / ₂ " - 2" 3" - 1 ¹ / ₂ " 3" - 2" 3" - 2'/ ₂ " 3 ¹ / ₂ " - 2" 3 ¹ / ₂ " - 2 1/ ₂ " 3 ¹ / ₂ " - 3" 4" - 2" 4" - 2 ¹ / ₂ " 4" - 3" 4" - 3" 4" - 3" 6" - 5"	10 10 10 5 2 5 2 2 2 2 2 2 2 2 1	120 130 150 210 160 120 200 225 150 270 270 260 160 385 475

PLUGS - CAST IRON

Recessed



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
PLG1M	1/2"	50	6
PLG2M	3/4"	50	11
PLG3M	1"	25	22
PLG4M	11/4"	25	34
PLG5M	11/2"	10	48
PLG6M	2"	10	82
PLG7M	21/2"	2	150
PLG8M	3"	2	222
PLG9M	31/2"	1	340
PLG10M	4"	1	380

Square Head



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
PLG15M	1/2"	50	12
PLG25M	3/4"	50	16
PLG35M	1"	25	25
PLG45M	11/4"	25	34
PLG55M	11/2"	10	48
PLG65M	2"	10	80
PLG75M	21/2"	1	116
PLG85M	3"	1	185
PLG95M	31/2"	1	232
PLG105M	4"	1	310

Eaton's Crouse-Hinds Series 5 die cast copper-free aluminum conduit bodies, covers and gaskets are available for use with rigid or EMT conduit (with set screw). Conduit bodies are available in trade sizes ½"-4"; in the most popular conduit body shapes (C, LB, LL, LR, T) and ½"-2" in TB and X shapes. The Series 5 family is available as components or pre-packaged in various configurations as a SnapPack™ assembly. In addition, Series 5 is completely interchangeable with other manufacturers.



Applications:

- · Act as pull outlets for conductors being installed
- Provide openings for making splices and taps in conductors
- Act as outlets for lighting fixtures and wiring devices
- · Connect conduit sections
- Provide taps for branch conduit runs
- Make 90° bends in conduit runs
- Provide for access to conductors for maintenance and future system changes

Features/Benefits:

- Die cast copper-free aluminum construction is lightweight and corrosion resistant for long reliable service
- Epoxy powder coat finish provides additional corrosion resistance in an aesthetically pleasing appearance
- Conduit bodies are supplied with threaded hubs for use with Rigid/IMC conduit or as a combination body (threaded and with set screws for use with EMT or Rigid/IMC conduit on trade sizes)
- Domed aluminum cover provides additional cubic capacity
- SnapPack™ available in choice of 3 configurations to match customer preferences.

Certifications & Compliances:

- UL Listed
- cUL Listed
- UL File No. E-15022

Standard Materials:

- Bodies-Copper-Free Aluminum with epoxy powder paint
- Covers-Aluminum with stainless steel screws, natural finish
- Gaskets-Neoprene

Series 5 Features:

 Integral gasket covers. The new sheet aluminum covers feature a raised dome with stainless steel screws supplied with nylon washers and a gasket for simplifying installation reducing inventory and labor costs. These innovative covers are UL and cUL Listed and are NEMA 4 Rated.



- SnapPack™. Designed for ordering and receiving convenience, the SnapPack combines a body, gasket, and sheet aluminum cover in a single assembly.
 - Rigid body with traditional cover and gasket (e.g. LB15 CGN)



 Combination body with traditional cover and gasket (e.g. LB15 MTC)



 NEMA 4 rigid body with new integral gasketed cover (e.g. X15 ICG)





TYPE LB

	Outlet Boo	ly		SnapPack					
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#	Internal Col.In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
1/2"	LB15	LB15 MT	LB15 CGN	LB15 MTC	LB15 ICG	4.35	10	26	-
3/4"	LB25	LB25 MT	LB25 CGN	LB25 MTC	LB25 ICG	7.3	10	48	3 # 6 AWG
1"	LB35	LB35 MT	LB35 CGN	LB35 MTC	LB35 ICG	12.2	5	64	3 # 4 AWG
11/4"	LB45	LB45 MT	LB45 CGN	LB45 MTC	-	32.3	2	140	3 # 2 AWG
11/2"	LB55	LB55 MT	LB55 CGN	LB55 MTC	-	33.8	2	160	3 # 1/0 AWG
2"	LB65	LB65 MT	LB65 CGN	LB65 MTC	-	71.2	1	260	3 # 1/0 AWG
21/2"	LB75	LB75 MT*†	LB75 CGN	LB75 MTC	-	71.2	1	500	3 # 300 MCM
3"	LB85	LB85 MT*†	LB85 CGN	LB85 MTC	-	183.5	1	600	3 # 350 MCM
31/2"	LB95	LB95 MT*†	LB95 CGN	LB95 MTC	-	304.9	1	900	3 # 350 MCM
4"	LB105	LB105 MT*†	LB105 CGN	LB105 MTC	-	308	1	1000	3 # 350 MCM

†Combo EMT, Rigid/IMC Fittings greater than 2" trade size are SET-SCREW ONLY (not combination threaded and set-screw) *Weight Lbs Per 100 is listed for outlet body only



TYPE LR

	Out	let Body		SnapPack					
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#	Internal Col.In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
1/2"	LR15	LR15 MT	LR15 CGN	LR15 MTC	LR15 ICG	4.35	10	26	-
3/4"	LR25	LR25 MT	LR25 CGN	LR25 MTC	LR25 ICG	7.3	10	48	3 # 6 AWG
1"	LR35	LR35 MT	LR35 CGN	LR35 MTC	LR35 ICG	12.2	5	64	3 # 4 AWG
11/4"	LR45	LR45 MT	LR45 CGN	LR45 MTC	-	35.8	2	140	3 # 2 AWG
11/2"	LR55	LR55 MT	LR55 CGN	LR55 MTC	-	35.8	2	160	3 # 1/o AWG
2"	LR65	LR65 MT	LR65 CGN	LR65 MTC	-	69.7	1	260	3 # 1/0 AWG
21/2"	LR75	-	-	-	-	69.7	1	500	3 # 300 MCM
3"	LR85	-	-	-	-	186	1	600	3 # 350 MCM
31/2"	LR95	-	-	-	-	306	1	900	3 # 350 MCM
4"	LR105	-	-	-	-	308	1	1000	3 # 350 MCM

*Weight Lbs Per 100 is listed for outlet body only



TYPE LL

	Out	let Body	SnapPack				1		
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	J	Internal Col.In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
1/2"	LL15	LL15 MT	LL15 CGN	LL15 MTC	LL15 ICG	4.35	10	30	-
3/4"	LL25	LL25 MT	LL25 CGN	LL25 MTC	LL25 ICG	7.3	10	48	3 # 6 AWG
1"	LL35	LL35 MT	LL35 CGN	LL35 MTC	LL35 ICG	12.2	5	64	3 # 4 AWG
11/4"	LL45	LL45 MT	LL45 CGN	LL45 MTC	-	35.8	2	140	3 # 2 AWG
11/2"	LL55	LL55 MT	LL55 CGN	LL55 MTC	-	35.8	2	160	3 # 1/4 AWG
2"	LL65	LL65 MT	LL65 CGN	LL65 MTC	-	69.7	1	270	3 # 1/4 AWG
21/2"	LL75	-	LL75 CGN	-	-	69.7	1	500	3 # 300 MCM
3"	LL85	l -	LL85 CGN	-	-	186	1	600	3 # 350 MCM
31/2"	LL95	-	LL95 CGN	-	-	306	1	900	3 # 350 MCM
4"	LL105	-	LL105 CGN	-	-	308	1	1000	3 # 350 MCM

^{*}Weight Lbs Per 100 is listed for outlet body only



TYPE C

	Out	let Body		SnapPack					
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#	Internal Col.In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
1/2"	C15	C15 MT	C15 CGN	C15 MTC	C15 ICG	4.35	10	27	-
3/4"	C25	C25 MT	C25 CGN	C25 MTC	C25 ICG	7.3	10	40	3 # 6 AWG
1"	C35	C35 MT	C35 CGN	C35 MTC	C35 ICG	12.2	5	64	3 # 4 AWG
11/4"	C45	C45 MT	C45 CGN	C45 MTC	-	32.3	2	165	3 # 2 AWG
11/2"	C55	C55 MT	C55 CGN	C55 MTC	-	33.8	2	150	3 # 1/6 AWG
2"	C65	C65 MT	C65 CGN	C65 MTC	-	69.5	1	270	3 # 1/4 AWG
21/2"	C75	-	-	-	-	69.5	1	500	3 # 300 MCM
3"	C85	-	-	-	-	188	1	600	3 # 350 MCM
31/2"	C95*	-	-	-	-	307	1	900	3 # 350 MCM
4"	C105*	-	-	-	-	309	1	1000	3 # 350 MCM



ප් TYPE T

	Out	let Body		SnapPack					
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#	Internal Col.In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
1/2" 3/4"	T15 T25	T15 MT T25 MT	T15 CGN T25 CGN	T15 MTC T25 MTC	T15 ICG T25 ICG	4.35 7.3	10 10	27 40	- 3 # 6 AWG
1"	T35	T35 MT	T35 CGN	T35 MTC	T35 ICG	12.2	5	64	3 # 4 AWG
1 1/4" 1 1/2"	T45 T55	T45 MT T55 MT	T45 CGN T55 CGN	T45 MTC T55 MTC	-	33.1 33.1	2	165 150	3 # 2 AWG 3 # ½ AWG
2" 2½"	T65 T75	T65 MT	T65 CGN T75 CGN	T65 MTC	-	67 67	1	270 500	3 # 1/4 AWG 3 # 300 MCM
3"	T85	-	T85 CGN	-	-	175	1	600	3 # 350 MCM
31/2" 4"	T95* T105*	-	T95 CGN T105 CGN	-	-	298 300	1	900 1000	3 # 350 MCM 3 # 350 MCM



TYPE TB

	Out	let Body		SnapPack					
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#	Internal Col.In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
1/2"	TB15	-	-	-	TB15 ICG	4.5	10	29	-
3/4"	TB25	-	-	-	TB25 ICG	7.5	10	42	3 # 6 AWG
1"	TB35	-	-	-	TB35 ICG	10.8	5	58	3 # 4 AWG
11/4"	TB45	-	-	-	-	32.3	2	110	3 # 2 AWG
11/2"	TB55	-	-	-	-	34.2	2	109	3 # 2 AWG
2"	TB65	-	-	-	-	71.4	1	192	3 # % AWG



TYPE X

	Out	let Body		SnapPack					
Trade Size	Rigid/IMC Cat#	Combo EMT, Rigid/IMC Cat#	Rigid/IMC Body, Traditional Cover, and Gasket Cat#	Combo EMT, Body, Traditional Cover, and Gasket Cat#	NEMA 4 Rigid/IMC Body and Integral Cover & Gasket Cat#	Internal Col.In Cu. In.	Unit Qty	Weight Lbs Per 100*	Max # of Conductors
1/2"	X15	-	-	-	X15 ICG	4.5	10	31	-
3/4"	X25	-	-	-	X25 ICG	7.5	10	47	3 # 6 AWG
1"	X35	-	-	-	X35 ICG	10.8	5	62	3 # 4 AWG
11/4"	X45	-	-	-	-	32.3	2	118	3 # 2 AWG
11/2"	X55	-	-	-	-	34.2	2	118	3 # 2 AWG
2"	X65	-	-	-	-	71.4	1	213	3 # 1/4 AWG

*Weight Lbs Per 100 is listed for outlet body only

INTEGRAL GASKET COVERS

Aluminum Cover with Neoprene Integral Gasket

1/2" - 3" are NEMA 4 Rated



Trade Size	Cat. #	Unit Qty.	Weight Lbs. Per 100
1/2"	150G	50	6
3/4"	250G	50	7
1"	350G	50	8
11/4" - 11/2"	450G	50	17
2"	650G	25	26
21/2" - 3"	850G	10	80
31/2" - 4"	950G	10	145

ALUMINUM COVERS

Aluminum

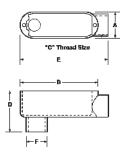


Trade Size	Cat. #	Unit Qty.	Weight Lbs. Per 100
1/2"	150	50	5
3/4"	250	50	6
1"	350	50	7
11/4" - 11/2"	450	50	15
2"	650	25	24
21/2" - 3"	850D	10	78
31/2" - 4"	950D	10	140

GASKETS Neoprene

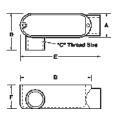


Trade Size	Cat. #	Unit Qty.	Weight Lbs. Per 100
1/2"	GASK015N	50	2
3/4"	GASK025N	50	2
1"	GASK035N	50	3
11/4" - 11/2"	GASK045N	50	6
2"	GASK065N	25	10
21/2" - 3"	GASK085N	10	20
31/0" - /1"	GASKOOSN	10	30



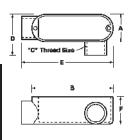
TYPE LB DIMENSIONS-THREADED & SET SCREW

Trade Size	Α	В	С	D	E	F
						<u> </u>
1/2"	1.31	3.87	0.50	2.11	4.24	1.07
3/4"	1.53	4.67	0.75	2.38	4.97	1.28
1"	1.74	5.37	1.00	2.74	5.79	1.56
11/4"	2.49	7.23	1.25	3.50	7.79	1.99
11/2"	2.49	7.23	1.50	3.65	7.81	2.27
2"	3.10	9.46	2.00	4.24	10.20	2.91
21/2"	4.44	12.22	2.50	5.75	13.14	3.43
3"	4.44	12.22	3.00	6.41	13.14	4.13
31/2"	5.42	14.83	3.50	7.11	15.46	4.65
4"	5.42	1/183	4.00	7 20	15.46	5 16

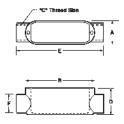


TYPE LR DIMENSIONS—THREADED & SET SCREW

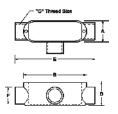
Trade Size	Α	В	С	D	E	F
1/2"	1.31	3.87	0.50	2.06	4.40	1.40
3/4"	1.53	4.67	0.75	2.28	5.07	1.64
1"	1.74	5.37	1.00	2.51	5.94	1.90
11/4"	2.49	7.23	1.25	3.50	7.87	2.85
11/2"	2.49	7.23	1.50	3.50	7.87	2.85
2"	3.10	9.46	2.00	3.83	9.88	3.41
21/2"	4.50	12.22	2.50	6.00	13.14	4.00
3"	4.65	12.22	3.00	6.10	13.00	4.70
31/2"	5.42	14.83	3.50	6.40	15.45	5.43
4"	5.42	14.83	4.00	6.40	15.45	5.43



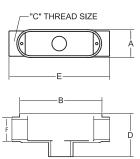
TYPE LL DIMENSIONS—THREADED & SET SCREW								
Trade Size	Α	В	С	D	E	F		
1/2"	1.31	3.87	0.50	2.06	4.40	1.40		
3/4"	1.53	4.67	0.75	2.28	5.07	1.64		
1"	1.74	5.37	1.00	2.68	5.94	1.90		
11/4"	2.49	7.23	1.25	3.50	7.87	2.85		
11/2"	2.49	7.23	1.50	3.50	7.87	2.85		
2"	3.10	9.46	2.00	3.83	10.20	3.41		
21/2"	4.50	12.22	2.50	6.00	13.14	4.00		
3"	4.65	12.22	3.00	6.10	13.00	4.70		
31/2"	5.42	14.83	3.50	6.05	15.35	5.43		
4"	5.42	14.83	4.00	6.05	15.35	5.43		



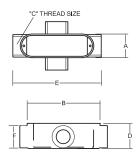
TYPE C DIMENSIONS—THREADED & SET SCREW								
Trade Size	Α	В	С	D	E	F		
1/2"	1.31	3.87	0.50	1.40	4.82	1.07		
3/4"	1.53	4.67	0.75	1.64	5.50	1.35		
1"	1.74	5.37	1.00	1.90	6.44	1.67		
11/4"	2.49	7.23	1.25	2.73	8.45	2.27		
11/2"	2.49	7.23	1.50	2.73	8.45	2.27		
2"	3.10	9.46	2.00	3.41	10.71	2.91		
21/2"	4.50	12.22	2.50	4.30	14.00	3.50		
3"	4.65	12.22	3.00	4.66	13.80	4.13		
31/2"	5.42	14.83	3.50	5.36	16.10	5.30		
4"	5.42	14.83	4.00	5.36	16.10	5.30		



TYPE T DIMENSIONS—THREADED & SET SCREW							
Trade Size	Α	В	С	D	E	F	
1/2"	1.31	3.87	0.50	1.40	4.82	1.07	
3/4"	1.53	4.67	0.75	1.64	5.40	1.35	
1"	1.74	5.37	1.00	1.90	6.33	1.15	
11/4"	2.49	7.23	1.25	2.73	8.45	2.27	
11/2"	2.49	7.23	1.50	2.73	8.45	2.27	
2"	3.10	9.46	2.00	3.41	10.71	2.91	
21/2"	4.50	12.22	2.50	4.00	14.00	3.50	
3"	4.65	12.22	3.00	4.66	13.80	4.13	
31/2"	5.42	14.83	3.50	5.40	16.00	5.30	
4"	5 42	14 83	4 00	5.40	16.00	5.30	



Trade Size	Α	В	С	D	E	F
/2"	1.31	3.92	0.50	2.10	4.72	1.07
/ ₄ "	1.53	4.64	0.75	2.40	5.51	1.28
1"	1.74	5.38	1.00	2.77	6.47	1.56
11/4"	2.49	7.24	1.25	3.53	8.25	1.99
1/2"	2.49	7.24	1.50	3.53	8.25	2.27
2"	3.10	9.50	2.00	4.50	10.50	2.91



TYPE X DIMENSIONS—THREADED & SET SCREW

Trade Size	Α	В	С	D	E	F
1/2"	1.31	3.92	0.50	1.37	4.72	1.07
3/4"	1.53	4.64	0.75	1.63	5.51	1.28
1"	1.74	5.38	1.00	1.88	6.47	1.56
11/4"	2.49	7.24	1.25	2.51	8.25	1.99
11/2"	2.49	7.24	1.50	2.50	8.25	2.27
2"	3.10	9.50	2.00	3.40	10.50	2.91

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Form 5 Conduit Outlet Bodies, Covers & Gaskets Malleable Iron

Applications:

Form 5 Malleable Iron Conduit Bodies are used in conduit systems to:

- · Act as pull outlets for conductors being installed
- Provide openings for making splices and taps in conductors
- Act as mounting outlets for lighting fixtures and wiring devices
- Connect conduit sections
- Provide taps for branch conduit runs
- Make 90 degree bends in conduit runs
- Provide for access to conductors for maintenance and future system changes

Features:

- Interchangeable with Appleton Form 35 Conduit Bodies
- Built-in rollers on 1¹/₄" to 4" C and LB bodies to facilitate wire pulling
- Smooth and rounded integral bushings for protection of wire insulation
- Solid neoprene gaskets may be converted to open type by pulling out perforated center section
- Stainless steel cover screws
- · Domed sheet steel covers provide additional cubic capacity
- Integral gasket cover provides NEMA 4 rating

Certifications and Compliances:

- UL File No. E-15022
- UL Standard 514B
- cUL to CSA Standard C22.2 No. 18

Standard Materials:

- Bodies Malleable iron
- Gaskets Neoprene
- Covers sheet steel or malleable
- Cover screws stainless steel

Standard Finishes:

- Malleable iron electrogalvanized and aluminum acrylic paint
- Neoprene natural
- Sheet steel electrogalvanized
- Stainless steel natural

Options:

DescriptionSuffixHot dipped galvanizedHDG



Form 35 is a registered trademark of Appleton Electric/EGS.

Form 5 Conduit Outlet Bodies, Covers & Gaskets -Malleable Iron

Options:

Description

\$Suffix

‡Snapack™ - packaged body and integral gasket cover
Available on all configurations (½" - 2")

CG

TYPE LB ‡



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
LB50M	1/2"	4.5	10	71	N/A
LB75M	3/4"	7.5	10	97	3 #6 AWG
LB100M	1"	12.5	10	143	3 #4 XHHW
LB125M*	11/4"	32.0	5	287	3 #2 XHHW
LB150M*	11/2"	35.3	5	331	3 #1/0 XHHW
LB200M*	2"	73.0	1	534	3 #4/0 XHHW
LB250M*	21/2"	142.0	1	1105	3 #300 MCM XHHW
LB300M*	3"	173.0	1	1160	3 #350 MCM XHHW
LB350M*	31/2"	292.0	1	1989	3 #350 MCM XHHW
LB400M*†	4"	324.0	1	2099	3 #350 MCM XHHW

^{*1} % – 4" LB and C Bodies supplied with built in rollers to facilitate wire pulling. †Self certified to #500 MCM XHHW.

TYPE LL ‡



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
LL50M	1/2"	4.5	10	76	N/A
LL75M	3/4"	7.5	10	95	3 #6 AWG
LL100M	1"	12.5	10	138	3 #4 XHHW
LL125M	11/4"	32.0	5	309	3 #2 XHHW
LL150M	11/2"	33.0	5	332	3 #2 XHHW
LL200M	2"	68.0	1	497	3 #4/0 XHHW
LL250M	21/2"	142.0	1	1105	3 #300 MCM XHHW
LL300M	3"	173.0	1	1437	3 #350 MCM XHHW
LL350M	31/2"	292.0	1	2321	3 #350 MCM XHHW
LL400M	4"	324.0	1	2431	3 #350 MCM XHHW

TYPE C ‡



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
C50M	1/2"	4.5	10	98	N/A
C75M	3/4"	7.5	10	118	3 #6 AWG
C100M	1"	12.5	10	170	3 #4 XHHW
C125M*	11/4"	35.0	5	309	3 #2 XHHW
C150M*	11/2"	35.3	5	368	3 #1/0 XHHW
C200M*	2"	75.0	1	552	3 #4/0 XHHW
C250M*	21/2"	153.0	1	1216	3 #300 MCM XHHW
C300M*	3"	181.0	1	1437	3 #300 MCM XHHW
C350M*	31/2"	290.0	1	2210	3 #350 MCM XHHW
C400M*	4"	320.0	1	2321	3 #350 MCM XHHW

 $^{\star}1^{1}\!/_{\!4}"$ – 4" LB and C Bodies supplied with built in rollers to facilitate wire pulling.

TYPE LR ‡



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
LR50M	1/2"	4.5	10	71	N/A
LR75M	3/4"	7.5	10	100	3 #6 AWG
LR100M	1"	12.5	10	157	3 #4 XHHW
LR125M	11/4"	32.0	5	332	3 #2 XHHW
LR150M	11/2"	35.3	5	345	3 #2 XHHW
LR200M	2"	68.0	1	626	3 #4/0 XHHW
LR250M	21/2"	142.0	1	1105	3 #300 MCM XHHW
LR300M	3"	173.0	1	1437	3 #350 MCM XHHW
LR350M	31/2"	292.0	1	2321	3 #350 MCM XHHW
LR400M	4"	324.0	1	2500	3 #350 MCM XHHW

TYPE T ‡



		Internal Vol. in	Unit	Wt. Lbs.	Max. # of
Cat.#	Size	Cu. In.	Qty.	Per 100	Conductors
T50M	1/2"	6.0	10	111	N/A
T75M	3/4"	9.5	10	137	3 #6 AWG
T100M	1"	15.0	10	196	3 #4 XHHW
T125M	11/4"	33.0	5	332	3 #2 XHHW
T150M	11/2"	36.0	5	368	3 #1 XHHW
T200M	2"	76.0	1	663	3 #2/0 XHHW
T250M	21/2"	142.0	1	1271	3 #300 MCM XHHW
T300M	3"	173.0	1	1547	3 #300 MCM XHHW
T350M	31/2"	292.0	1	2542	3 #350 MCM XHHW
T400M	4"	324.0	1	2542	3 #350 MCM XHHW

Form 5 Conduit Outlet Bodies, Covers & Gaskets -Malleable Iron

TYPE TB ‡



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
TB50M	1/2"	6.0	10	88	N/A
TB75M	3/4"	9.5	10	120	3 #6 AWG
TB100M	1"	15.0	10	197	3 #6 AWG
TB125M	11/4"	33.0	5	342	3 #6 AWG
TB150M	11/2"	36.0	5	420	3 #4 XHHW
TR200M	2"	76.0	1	691	3 #1/0 XHHW

TYPE X ‡



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
X50M	1/2"	6.0	10	139	N/A
X75M	3/4"	9.5	10	172	3 #6 AWG
X100M	1"	15.0	10	247	3 #4 XHHW
X125M	11/4"	33.0	5	416	3 #2 XHHW
X150M	11/2"	36.0	5	463	3 #1/0 XHHW
X200M	2"	76.0	1	833	3 #2/0 XHHW

SHEET STEEL COVERS



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
K50S	1/2"	50	9
K75S	3/4"	50	13
K100S	1"	25	19
K125S	11/4" & 11/2"	20	31
K200S	2"	5	50
K250S	21/2" & 3"	5	94
K350S	31/2" & 4"	5	138

CAST IRON COVERS



Cat. #	Size	Qty.	Per 100
K50CM	1/2"	50	23
K75CM	3/4"	50	31
K100CM	1"	25	41
K125CM	11/4" & 11/2"	20	91
K200CM	2"	5	208
K250CM	21/2" & 3"	5	358
K350CM	31/2" & 4"	5	550

NEOPRENE GASKETS - PERFORATED CENTER



Cat. #	Size	Unit Qty.
GK50N	1/2"	100
GK75N	3/4"	100
GK100N	1"	50
GK125N	11/4" & 11/2"	25
GK200N	2"	25
GK250N	21/2" & 3"	25
GK350N	31/2" & 4"	25

INTEGRAL GASKET COVER - SHEET STEEL



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
K50SG	1/2"	50	14
K75SG	3/4"	50	16
K100SG	1"	25	46
K125SG	11/4" & 11/2"	20	62
K200SG	2"	5	70
K250SG	21/2" & 3"	5	190
K350SG	31/2" & 4"	5	340

Form 5 Conduit Outlet Bodies, Covers & Gaskets -Malleable Iron

DIMENSIONS (In Inches): Form 5 Iron LB Size ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A 1.34 1.50 1.80 2.60 2.60 3.12 4.31 4.31 5.62 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 16.25 Conduit ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 7.13 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 16.50 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 6.81 Form 5 Iron LR Conduit ½ ¾ 1 1¼ 1½ 2 2½ 3 3½	4 5.62 16.60 7.21 4 7.13 16.50 7.19	B C C
Size ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A	5.62 16.60 7.21 4 7.13 16.50 7.19	B C C
A	5.62 16.60 7.21 4 7.13 16.50 7.19	B C C C C C C C C C C C C C C C C C C C
Form 5 Iron LR Conduit \(\frac{1}{2} \) \(\frac{1}{2}	16.60 7.21 4 7.13 16.50 7.19	B C C
Form 5 Iron LL Conduit	7.21 4 7.13 16.50 7.19 4 6.95 16.25	
Conduit ½ ¾ 1 1¼ 1½ 2 ½½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 7.13 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 16.50 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 6.81 Form 5 Iron LR Conduit ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	7.13 16.50 7.19 4 6.95 16.25	B c
Conduit ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 7.13 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 16.50 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 6.81 Form 5 Iron LR Conduit ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	7.13 16.50 7.19 4 6.95 16.25	- B c
Conduit ½ ¾ 1 1¼ 1½ 2 ½½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 7.13 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 16.50 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 6.81 Form 5 Iron LR Conduit ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	7.13 16.50 7.19 4 6.95 16.25	- B A
A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 7.13 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 16.50 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 6.81 Form 5 Iron LR Conduit 1/2 3/4 1 11/4 11/2 2 21/2 3 31/2 A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62 Form 5 Iron C	7.13 16.50 7.19 4 6.95 16.25	- C
B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 16.50 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 6.81 Form 5 Iron LR Conduit ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62 Form 5 Iron C	16.50 7.19 4 6.95 16.25	A B
Form 5 Iron LR Conduit 1/2 3/4 1 11/4 11/2 2 21/2 3 31/2 A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62 Form 5 Iron C	7.19 4 6.95 16.25	- C
Conduit ½ ¾ 1 1¼ 1½ 2 ½½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	6.95 16.25	() Î
Conduit ½ ¾ 1 1¼ 1½ 2 ½½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	6.95 16.25	B
Conduit ½ ¾ 1 1¼ 1½ 2 ½½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	6.95 16.25	B
Conduit ½ ¾ 1 1¼ 1½ 2 ½½ 3 3½ A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.10 B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	6.95 16.25	- 6
B 4.68 5.37 6.20 8.12 8.12 10.50 13.60 13.87 6.25 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62	16.25	1
C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.62 Form 5 Iron C		
	5.62	
		A ((())
		. —
	4	В
A 1.34 1.50 1.80 2.60 2.60 3.12 4.31 4.31 4.88	4.88	
B 5.38 6.00 7.05 9.00 9.00 11.50 15.00 15.12 18.13 C 1.37 1.70 1.90 2.75 2.83 3.31 3.90 4.75 5.19	18.13 5.56	
		(())]A
Form 5 Iron T		В
Conduit 1/2 3/4 1 11/4 11/2 2 21/2 3 31/2	4	
A 2.05 2.25 2.65 2.75 3.50 4.12 5.71 5.87 6.81 B 5.38 6.00 7.05 9.00 9.00 11.50 15.00 15.12 18.13	7.15 18.13	
C 1.34 1.50 1.80 2.60 2.60 3.12 4.31 4.31 5.19	5.56	
		(()) A
Form 5 Iron TB		
Conduit ½ ¾ 1 1½ 2		
A 1.34 1.50 1.80 2.60 2.60 3.	12	_ (
A 1.34 1.50 1.80 2.60 2.60 3. B 5.38 6.00 7.05 9.00 9.00 1° C 2.05 2.25 2.65 2.75 2.83 4.	1.50 42	В—
		((<u>)</u>)
Form 5 Type X		В
Conduit 1/2 3/4 1 11/4 11/2 2		B
Conduit 1/2 3/4 1 11/4 11/2 2	4	_ B _ C
Conduit ½ ¾ 1 1¼ 1½ 2 A 2.79 2.93 3.56 4.43 4.43 5. B 5.41 6.08 7.1 9.1 9.1 1		- B ¢

Cast Device Boxes

FS and FD Boxes

Applications:

Cast device boxes are installed to:

- · Accommodate wiring devices
- · Act as pull boxes for conductors in a conduit system
- Provide openings to make splices and taps in conductors
- Use indoors and outdoors
- Use in applications where boxes may be subjected to rough use

Features:

- Green ground screw is located on the flange of the box for easy ground wire termination and is standard on boxes
- Suitable for use in wet locations when used with gasket and flat blank covers
- Mounting lugs standard
- Tapered threaded hubs (NPT) with integral bushing
- Available as shallow (FS) or deep (FD) configuration.
- Ample wiring room provided in either FS or FD configuration
- Wide selection of surface or flush covers available in three materials (sheet malleable, steel, aluminum)
- Malleable iron construction provides high tensile strength for strong, dependable service
- · Covers are individually bagged and supplied with screws



Certifications and Compliances:

- cULus
- cCSAus

Standard Materials:

Malleable iron

Standard Finishes:

• Malleable iron – zinc electroplate

FS BOXES





FSM1

Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FSM1	1/2"	5	222
FSM2	3/4"	5	234
FSM3	1"	5	243

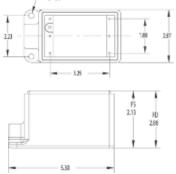
FD BOXES



FDM1

Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FDM1	1/2"	2	278
FDM2	3/4"	2	273
FDM3	1"	2	284

FS and FD Dimensions



FSC BOXES FDC BOXES





FSCM1

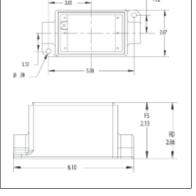
Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FSCM1	1/2"	5	234
FSCM2	3/4"	5	241
FSCM3	1"	5	250



FDCM1

Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
FDCM1	1/2"	2	313	
FDCM2	3/4"	2	294	
FDCM3	1"	2	306	

FSC and FDC Dimensions



FS and FD Covers

Cast Device Covers - Malleable

FS AND FD COVERS - MALLEABLE









FBCM1 SWCM1

RCM1

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
FBCM1	Malleable Iron Flat Blank Cover	25	56
SWCM1	Malleable Iron Switch Cover	25	63
RCM1	Malleable Iron Duplex Receptacle Cover	25	55

FS AND FD COVERS - STEEL



FBCS1



SWCS1





Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
FBCS1	Steel Flat Blank Cover	25	18
SWCS1	Steel Switch Cover	25	16
RCS1	Steel Duplex Receptacle Cover	25	13
GFICS1	Steel GFCI Cover	25	12

FS AND FD COVERS - ALUMINUM





FBCA1

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
FBCA1	Aluminum Flat Blank Cover	25	9

FS AND FD BOX GASKET





FSGSK1

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	
FSGSK1	Neoprene Gasket	25	3.5	_

Myers™ Hubs

Applications:

- Myers™ Hubs are used in the termination of electrical circuits through wall of the enclosure
- Designed for use indoors or outdoors with rigid conduit and IMC
- Ideal for pharmaceutical, chemical and food processing, pulp/paper, nuclear, solar, and commercial construction applications
- Resistant to a variety of chemicals, including acetic, citric, and salt water
- The o-ring is a special "Viton (75)" and has excellent chemical resistance
- Hub is provided with a stainless steel ground nut

Features:

- Wide range of styles, trade sizes, and materials to meet customer requirements and preferences
- · Multiple certifications provide users peace of mind
- Easy installation and smooth pulling service for labor savings
- Tapered female threads for rigid/IMC conduit, NPSM male threads

Certifications and Compliances:

NEC/CEC:

Class I. Division 2

Class II, Divisions 1 & 2

Class III, Divisions 1 & 2

Class I, Zone 1, AEx e II

Class I, Zone 1, Ex e II

- UL Listed UL Standard 514B
- CSA Certified Certified by UL to CSA Standard C22.2 No. 18
- NEMA Type 2, 3, 3R, 4, 4X, 12 (std hub & ground hub)
- IEC:

ATEX Certified to EN60079-0:2009, EN60079-7:2007, and EN60079-14 Standards

ATEX Certified ITS12ATEX47591X II 2G Ex e IIC Gb Ta (-15°C to 120°C)

IECEx Certified IECEX ETL 12.0009X to IEC 60079-0:2007-10, Edition 5 and IEC 60079-7:2006-07, Edition 4 IECEx-Ex e II Gb Ta (-15°C to 120°C)

IP66



Standard Materials:

- Nut: Zinc (Zamek-2, Zamek-3), Aluminum (Al 360), Stainless (316)
- Body: Zinc (Zamek-2, Zamek-3), Aluminum (Al 360), Stainless (316)
- Insuliner: Lexan
- · O-ring: Gasket Viton
- Ground Screw: Steel/Stainless Steel

Standard Finishes:

• Aluminum: Natural

• Zinc: Natural

Stainless: Natural



Design Features

- A Vibration-proof Strong, oversize nut with radial serrations assures flush installation and positive grounding.
- B Grounding Screw for added safety.
- **Captive O-Ring Gasket** Impervious to corrosive moisture and petroleum products. Gasket assures positive water and dust-tight installations.
- Precision Machine Cut Threads Positive fit and simple installation.
- **No Welding** Unique serrations on both nut and hub bite into metal assuring a positive electrical ground. (UL approved for use with service entrance conduit).
- Posi-Lok Insulated Throat Cannot come out. Standard in sizes from 1/2" through 4".

Hub Basic Scru-Tite®

Hubs are ideal for general use with rigid conduit. Provides positive seal and electrical ground.



Ground Hub

Combines all of the features of the Hub Basic Scru-Tite® plus the additional feature of the grounding screw on the locknut.



ATEX Rated Hub

Hub is listed for use in hazardous (classified) locations to IECEx-ATEX certifications. Ideal for global requirements and OEM's shipping material worldwide.



Through-Bulkhead Fitting

Hubs are the perfect method for installing hubs on cast boxes or through thicker walls



Metric to NPT Adapter

Used to convert a threaded metric entry to a NPT entry.



Drain Plugs

Designed to install in the bottom of an enclosure to drain any accumulated condensation. Available in aluminum or stainless steel construction.



Cap-Off

Designed to install in enclosure to provide environmental cap for unused entries or knockouts.



Hub Basic Scru-Tite® - NEMA 2, 3, 3R, 4, 4X, and 12 Zinc

UL File No. E-27258

		(L)	_E UL
Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
ST 03†	3/8"	25	11
ST 1†	/8 1/2"	25	19
ST 2†	3/4"	25	27
ST 3†	1"	25	40
ST 4†	11/4"	10	51
ST 5†	11/2"	10	68
ST 6†	2"	10	92
ST 7†	21/2"	5	210
ST 8†	3"	2	245
ST 9†	31/2"	2	278
ST 10†	4"	2	318
ST 11*	5"	1	478
ST 12*	6"	1	685
10 0 1 1 1 1 1		11 (f) OD	

[†]Optional nickel-chrome plate finish. Add suffix -CP. *Not supplied with insulator.

Hub Basic Scru-Tite® - NEMA 2, 3, 3R, 4, 4X, and 12 **Aluminum**

UL File No. E-27258

		(L)	_B (UL)
Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STA 1	1/2"	25	8
STA 2	3/4"	25	11
STA 3	1"	25	17
STA 4	11/4"	10	30
STA 5	11/2"	10	30
STA 6	2"	10	38
STA 7	21/2"	5	80
STA 8	3"	2	100
STA 9	31/2"	2	138
STA 10	4"	2	150
STA 11*	5"	1	300
STA 12*	6"	1	300

^{*}Not supplied with insulator.

Ground Hub - Stainless Steel Type 316 NEMA 2, 3, 3R, 4, 4X and 12

UL File No. E-59509







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
SSTG 1	1/2"	10	29
SSTG 2	3/4"	10	41
SSTG 3	1"	10	57
SSTG 4	11/4"	5	73
SSTG 5	11/2"	5	99
SSTG 6	2"	5	134
SSTG 7	21/2"	2	183
SSTG 8	3"	2	278
SSTG 9	31/2"	2	328
SSTG 10	4"	2	395

Ground Hub - Zinc NEMA 2, 3, 3R, 4, 4X and 12

UL File No. E-59509



*Not supplied with insulator. ‡Use of wire terminal is required by CSA and recommended by UL for wire gauges over 10 AWG.

Ground Hub – Aluminum NEMA 2, 3, 3R, 4, 4X and 12

UL File No. E-59509







		Unit	Wt. Lbs.	Max. Co Grd. Wii	
Cat. #	Size	Qty.	Per 100	CSA‡	UL‡
STAG 1	1/2"	25	13	#8	#8
STAG 2	3/4"	25	14	#8	#8
STAG 3	1"	25	18	#8	#8
STAG 4	11/4"	10	25	#8	#8
STAG 5	11/2"	10	33	#6	#8
STAG 6	2"	10	41	#4	#8
STAG 7	21/2"	5	90	#2	#6
STAG 8	3"	2	103	1/0	#6
STAG 9	31/2"	2	138	2/0	#6
STAG 10	4"	2	140	2/0	#4
STAG 11*	5"	1	325	3/0	#2
STAG 12*	6"	1	350	3/0	#1

*Not supplied with insulator.

‡Use of wire terminal is required by CSA and recommended by UL for wire gauges over 10

ATEX Hazardous Location Hub with Increased Safety Ground Terminal Zinc - NEMA 2, 3, 3R, 4, 4X, and IP66



⟨Ex⟩ II 2 G Ex e IIC Gb Ta (-15°C to 120°C)

IECEx - Ex e II Gb Ta (-15°C to 120°C)

Class I, Zone 1, AEx e II Class I, Zone 1, Ex e II

UL File No. E-59509











Max. Copper Grd. Wire Size

			Wt. Lbs.		
Cat. #	Size	Unit Qty.	Per 100	CSA‡	UL‡
STGK 1	1/2"	10	20	#8	#8
STGK 2	3/4"	10	31	#8	#8
STGK 3	1"	10	44	#8	#8
STGK 4	11/4"	5	60	#8	#8
STGK 5	11/2"	5	73	#6	#8
STGK 6	2"	5	99	#4	#8
STGK 7	21/2"	2	145	#2	#6
STGK 8	3"	2	243	1/0	#6
STGK 9	31/2"	2	304	2/0	#6
STGK 10	4"	2	327	2/0	#4

‡Use of wire terminal is required by CSA and recommended by UL for wire gauges over

ATEX Hazardous Location Hub with Increased Safety Ground Terminal Stainless Steel - NEMA 2, 3, 3R, 4, 4X, and IP66



(Ex) II 2 G Ex e IIC Gb Ta (-15°C to 120°C)

IECEx - Ex e II Gb Ta (-15°C to 120°C)

Class I, Zone 1, AEx e II Class I, Zone 1, Ex e II

UL File No. E-59509











Max. Copper Grd. Wire Size

			Wt. Lbs.		
Cat. #	Size	Unit Qty.	Per 100	CSA‡	UL‡
SSTGK 1	1/2"	10	33	#8	#8
SSTGK 2	3/4"	10	44	#8	#8
SSTGK 3	1	10	60	#8	#8
SSTGK 4	11/4"	5	76	#8	#8
SSTGK 5	11/2"	5	103	#6	#8
SSTGK 6	2	5	137	#4	#8
SSTGK 7	21/2"	2	185	#2	#6
SSTGK 8	3"	2	281	1/0	#6
SSTGK 9	31/2"	2	331	2/0	#6
SSTGK 10	4"	2	399	2/0	#4

‡Use of wire terminal is required by CSA and recommended by UL for wire gauges over 10 AWG.

Through-Bulkhead Fitting - Zinc

UL File No. E-27258







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STTB 1	1/2"	5	30
STTB 2	3/4"	5	50
STTB 3	1"	5	70
STTB 4	11/4"	5	85
STTB 5	11/2"	5	110
STTB 6	2"	5	152
STTB 7	21/2"	4	280
STTB 8	3"	2	408
STTB 9	31/2"	2	468
STTB 10	4"	2	533

Through-Bulkhead Fitting - Aluminum

UL File No. E-27258









Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STTBA 1	1/2"	5	11
STTBA 2	3/4"	5	21
STTBA 3	1"	5	31
STTBA 4	11/4"	5	40
STTBA 5	11/2"	5	50
STTBA 6	2"	5	65
STTBA 7	21/2"	4	106
STTBA 8	3"	2	175

Through-Bulkhead Fitting - Zinc **Without Nipples**

Packaged as two pieces unassembled UL File No. E-27258





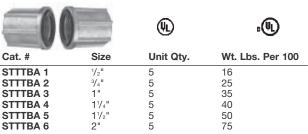




Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STTTB 1	1/2"	5	35
STTTB 2	3/4"	5	58
STTTB 3	1"	5	85
STTTB 4	11/4"	5	105
STTTB 5	11/2"	5	135
STTTB 6	2"	5	169

Through-Bulkhead Fitting - Aluminum Without Nipples

Packaged as two pieces unassembled UL File No. E-27258



Myers™ Hubs

Metric to NPT Adapter - Zinc



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STM 1	M20 to 1/2"	25	13
STM 2	M25 to 3/4"	25	19
STM 3	M32 to 1"	25	32
STM 4	M40 to 11/4"	10	40
STM 5	M50 to 11/2"	10	57
STM 6	M63 to 2"	10	70

Note: The Myers metric to NPT hub adapter is used to convert a threaded metric entry to a NPT entry. The female thread is NPT and the male thread is metric.

Metric to NPT Adapter - Stainless Steel



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
SSTM 1	M20 to 1/2"	10	12
SSTM 2	M25 to 3/4"	10	27
SSTM 3	M32 to 1"	10	32
SSTM 4	M40 to 11/4"	5	46
SSTM 5	M50 to 11/2"	5	50
SSTM 6	M63 to 2"	5	99

Note: The Myers metric to NPT hub adapter is used to convert a threaded metric entry to NPT entry. The female thread is NPT and the male thread is metric.

Non-Hazadous Drain Plug - Stainless Steel

UL File No. E-27258





,	SSTC 1	SSTC 1CD				
Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100			
SSTC 1	1/2"	25	17			
SSTC 1CD	1/2"	10	12			

Non-Hazadous Drain Plug - Aluminum

UL File No. E-27258





STAC 1 STAC 1CD			
Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STAC 1ST	1/2"	25	6
STAC 1CD	1/2"	25	2

Note: SSTC1 and STAC 1ST are for knockouts and are supplied with a locknut and straight threads.

SSTC 1CD and STAC 1CD are for threaded openings and are supplied without locknut and NPT threads. Not gasketed to allow for water drainage.

Crouse-Hinds by **F**:**T**•**N**

www.crouse-hinds.com US: 1-866-764-5454 CAN: 1-800-265-0502 Copyright[®] 2013 Eaton's Crouse-Hinds Business

Cap-Off - Zinc

UL File No. E-27258







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STC 1†	1/2"	25	13
STC 2†	3/4"	25	19
STC 3†	1"	25	28
STC 4†	11/4"	10	40
STC 5†	11/2"	10	50
STC 6†	2"	10	67

†Optional nickel-chrome plate finish. Add suffix -CP.

Cap-Off - Aluminum

UL File No. E-27258







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STAC 1	1/2"	25	5
STAC 2	3/4"	25	8
STAC 3	1"	25	12

Ground Nut - Zinc

UL File No. E-59509



Cat. # STGN 1 STGN 2 STGN 3 STGN 4 STGN 5 STGN 6





Max. Copper

			Grd. Wir	e Size	
Size	Unit Qty.	Wt. Lbs. Per 100	CSA‡	UL‡	
1/2"	25	6	#8	#8	
3/4"	25	10	#8	#8	
1"	25	13	#8	#8	
11/4"	10	15	#8	#8	
11/2"	10	23	#6	#8	
2"	10	28	#4	#8	

 $\ddagger \text{Use}$ of wire terminal is required by CSA and recommended by UL for wire gauges over 10 AWG.

Ground Nut - Aluminum

UL File No. E-59509





Wt. Lbs.



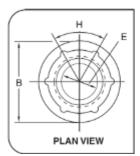
Max.	Сор	per
Grd.	Wire	Size

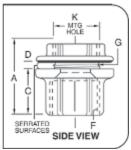
Cat. #	Size	Qty.	Per 100	CSA‡	UL‡
STAGN 1	1/2"	25	3	#8	#8
STAGN 2	3/4"	25	4	#8	#8
STAGN 3	1"	25	6	#8	#8
STAGN 4	11/4"	10	8	#8	#8
STAGN 5	11/2"	10	11	#6	#8
STAGN 6	2"	10	14	#4	#8

Unit

‡Use of wire terminal is required by CSA and recommended by UL for wire gauges over 10

SCHEDULE OF DIMENSIONS





"D" dimension indicates maximum panel thickness which hub will accommodate.

					E				K (Mounting Hole)		
Pipe Size	Α	В	С	D	Min.	Max.	- F	G	н	Min.	Max.
3/8	13/32	1½	21/32	1/8	.468	.493	³/ ₈ NPT	3/8 NPSM	60°	43/64	11/16
1/2	111/32	17/16	13/16	3/16	.591	.622	1/2 NPT	1/2 NPSM	60°	55/64	7/8
3/4	1 15/32	123/32	29/32	3/16	.783	.824	3/4 NPT	3/4 NPSM	60°	1 1/16	1 1/8
1	1 ²¹ / ₃₂	2	11/32	1/4	.997	1.049	1 NPT	1 NPSM	60°	1 ²¹ / ₆₄	13/8
11/4	1 11/16	23/8	11/32	1/4	1.311	1.380	11/4 NPT	11/4 NPSM	60°	1 43/64	13/4
11/2	1 11/16	23/4	11/32	1/4	1.529	1.610	11/2 NPT	11/2 NPSM	60°	1 59/64	2
2	13/4	31/4	13/32	1/4	1.964	2.067	2 NPT	2 NPSM	60°	225/64	21/2
21/2	27/32	33/4	19/32	1/4	2.346	2.469	21/2 NPT	21/2 NPSM	60°	257/64	3
3	25/16	43/8	13/8	1/4	2.915	3.068	3 NPT	3 NPSM	45°	333/64	35/8
31/2	2 ³ / ₈	5	17/16	1/4	3.371	3.548	31/2 NPT	31/2 NPSM	45°	41/64	41/8
4	27/16	51/2	11/2	1/4	3.825	4.026	4 NPT	4 NPSM	45°	433/64	45/8
5	215/16	6 ⁷ / ₈	2	1/4	4.795	5.047	5 NPT	5 NPSM	45°	537/64	511/16
6	3	711/16	2	5/16	5.762	6.065	6 NPT	6 NPSM	45°	641/64	63/4

SPACING CHART CONDUIT OR PIPE SIZE

COND. SIZE.	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4	5	6
3/8	15/32	11/4				Mi	inimum spac	ce from cen	ter of pipe o	or conduit to	nearest ob	struction.		
1/2	15/16	1 13/32	19/16	7					/ (boxed squ				ıme size.	
3/4	17/16	117/32	111/16	1 13/16			Example:	How close	may 3" co	nduits be s	paced? Ar	nswer 41/2".		
1	19/32	111/16	127/32	131/32	21/8				nensions in					
11/4	125/32	17/8	21/32	25/32	25/16	21/2	1		T of the san					_
11/2	131/32	21/16	27/32	211/32	21/2	211/16	27/8		d ¾" condui and find din			marked 74	to figure op	posite
2	27/32	25/16	215/32	219/32	23/4	215/16	31/8	33/8		Note: Mini	mum spacin	ıg dimensio	ns as showr	will give
21/2	215/32	29/16	223/32	227/32	3	33/16	33/8	35/8	37/8	appr	oximately 1/	" clearance	between lo	cking nut
3	225/32	27/8	31/32	35/32	35/16	31/2	311/16	315/16	43/16	41/2]			
31/2	33/32	33/16	311/32	315/32	35/8	313/16	4	41/4	41/2	413/16	5 ¹ / ₈]		
4	311/32	37/16	319/32	323/32	37/8	41/16	41/4	41/2	43/4	51/16	53/8	53/4]	
5	41/32	41/8	49/32	413/32	49/16	43/4	415/16	53/16	57/16	53/4	61/16	63/16	7 ¹ / ₈]
6	413/32	41/2	421/32	425/32	415/16	5 ¹ / ₈	55/16	59/16	513/16	6¹/ ₈	67/16	611/16	73/8	73/4
Minimur	m space	from cen	ter of pip	e or cond	luit to ne	arest obs	truction							
	19/32	11/16	27/32	31/32	11/8	15/16	11/2	13/4	2	25/16	2 ⁵ / ₈	27/8	39/16	315/16

Commercial Hubs

Features and Benefits:

- Commercial Hubs are a dependable low profile hub that meet the requirements of UL standards
- Neoprene-grade chloroprene gasket firms into an elastic compound (similar to rubber) and provides environmental protection for industrial applications
- Medium viscosity flame retardant insuliner provides a smooth pulling surface
- Cast threads to meet UL standards and allow quick and easy installation
- Hex surfaces on the body make tightening with a wrench easy
- Thinner, lighter weight construction
- Available in standard and grounded version to meet customer preferences

Certifications and Compliances:

- UL and cUL Listed
- UL File No. E-19189
- · Suitable for wet locations

Standard Material & Finishes:

- Body & Nut: Corrosion resistant Zamek-2 & Zamek-3 Type Zinc
- Gasket: neoprene-grade chloroprene
- Insuliner: Lexan920A, medium viscosity flame retardant grade
- Finish Natural



The use of rigid/IMC conduit remains the preferred choice in many applications because of the physical protection of conductors and long service life of the installation. Consequently, the need to terminate conduit into a box or enclosure creates the need for a hub.

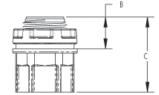
The Commercial Hub has been developed to provide a light-weight hub that installs quickly and easily, providing a secure termination.

CHB HUBS ORDERING AND DIMENSIONAL INFORMATION

Cat. No.	Trade Size	Α	В	С	Unit Qty	Wt. Lbs Per 100
CHB1	1/2"	17/32"	39/64"	17/16"	25	14
CHB2	3/4"	11/2"	21/32"	139/64"	25	20
CHB3	1"	157/64"	13/16"	155/64"	25	33
CHB4	11/4"	21/4"	53/64"	2"	10	43
CHB5	11/2"	235/64"	55/64"	27/64"	10	56
CHB6	2"	33/64"	31/32"	27/32"	10	71
CHB7	21/2"	39/16"	11/64"	25/8"	2	135
CHB8	3"	43/16"	11/64"	241/64"	2	156
CHB9	31/2"	425/32"	31/32"	241/64"	2	193
CHR10	4"	523/64"	11/64"	241/64"	1	229





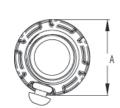


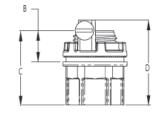


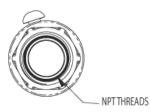
CHG GROUNDED HUBS ORDERING AND DIMENSIONAL INFORMATION

Cat. No.	Trade Size	Α	В	С	D	Unit Qty	Wt. Lbs Per 100
CHG1	1/2"	17/32"	39/64	17/16"	134/64"	25	14
CHG2	3/4"	11/2"	21/32"	139/64"	155/64"	25	21
CHG3	1"	157/64"	13/16"	155/64"	25/64"	25	34
CHG4	11/4"	21/4"	53/64"	2"	29/32"	10	45
CHG5	11/2"	235/64"	55/64"	27/64"	223/64"	10	59
CHG6	2"	33/64"	31/32"	27/32"	225/64"	10	75
CHG7	21/2"	39/16"	11/64"	25/8"	249/64"	2	145
CHG8	3"	43/16"	11/64"	241/64"	253/64"	2	161
CHG9	31/2"	425/32"	31/32"	241/64"	215/16"	2	196
CHG10	4"	523/64"	1 1/64"	241/64"	231/32"	1	234







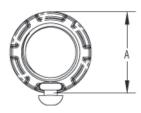


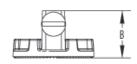
CHGN GROUND NUT ORDERING AND DIMENSIONAL INFORMATION

Cat. No.	Trade Size	Α	В	Ground Screw Size	Unit Qty	Wt. Lbs Per 100
CHGN1	1/2"	17/32"	21/32"	10 - 32	25	4
CHGN2	3/4"	11/2"	53/64"	10 - 32	25	5
CHGN3	1"	1 57/64"	59/64"	10 - 32	25	10
CHGN4	11/4"	21/4"	31/32"	11/4 - 20	10	11
CHGN5	11/2"	235/64"	63/64"	11/4 - 20	10	14
CHGN6	2"	33/64"	63/64"	11/4 - 20	10	16
CHGN7	21/2"	39/16"	1"	11/4 - 20	2	22
CHGN8	3"	43/16"	15/64"	11/4 - 20	2	29
CHGN9	31/2"	425/32"	17/64"	11/4 - 20	2	31
CHGN10	4"	523/64"	15/32"	11/4 - 20	1	40











Conduit Hubs

CONDUIT HUBS - MALLEABLE IRON Applications:

- Ideal for terminating electrical conduit through the walls of enclosures.
- Designed for use indoors or outdoors with rigid conduit and IMC, specific applications include food processing plants, distilleries, breweries, sewage disposal plants, chemical plants, paper processing mills and refineries.



Features:

- · Male thread type
- Tapered female thread for rigid conduit and IMC
- Recessed O-ring gasket assures raintight and secure environmental connections
- · Insulated throat provides smooth pulling surface
- Locking screw on the nut doubles as a grounding screw for added safety
- Complete size range from 1/2" to 6"
- · Hubs fit standard knockouts. No special tools required

Certifications and Compliances:

- Class I, Division 2
- Class II, Divisions 1 & 2
- Class III. Divisions 1 & 2
- UL Listed UL Standard 514B
- cUL Listed Certified by UL to CSA Standard C22.2 No. 18
- NEMA: FB-1
- · Suitable for wet locations

Mechanically galvanized

RoHS Compliant

Options:

MHUB12

	(L)		B. UL
Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
MHUB1	1/2"	25	18
MHUB2	3/4"	25	25
MHUB3	1"	5	50
MHUB4	11/4"	5	25
MHUB5	11/2"	2	20
MHUB6	2"	1	10
MHUB7	21/2"	1	10
MHUB8	3"	1	5
MHUB9	31/2"	1	5
MHUB10	4"	1	2
MHUB11	5"	1	1

Suffix

HDG

CONDUIT HUBS - IRON SPACE SAVER Applications:

- Ideal for terminating electrical conduit through the walls of enclosures.
- Designed for use indoors or outdoors with rigid conduit and IMC, specific applications include food processing plants, distilleries, breweries, sewage disposal plants, chemical plants, paper processing mills and refineries.

Features:

- Male thread is on the nut for space saving.
- Quick and easy when installing rigid conduit nipple between two existing enclosures.
- Insulated throat provides smooth pulling surface.



Hub fits standard knockouts. No special tools required.

Certifications and Compliances:

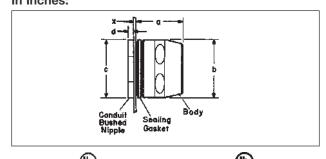
- Class I, Division 2
- Class II, Divisions 1 & 2
- Class III, Division 1 & 2
- UL Listed UL Standard 514B.
- cUL Listed Certified by UL to CSA Standard C22.2 No. 18.
- NEMA: FB-1
- · Suitable for wet locations.
- RoHS Compliant

Standard Materials & Finishes:

Material: Malleable Iron

• Finish: Zinc Electroplate

Dimensions In Inches:



	։(Ս <u>L</u>)							
Cat. #	Conduit Size	Unit Qty.	Wt. Lbs. Per 100	а	b	С	d	x
HUB1	1/2	25	18	1	11/4	1	1/8	9/64
HUB2	3/4	10	25	1 1/8	19/16	1³/ ₈	5/32	1/4
HUB3	1	5	50	1 3/8	17/8	15/8	3/16	9/32
HUB4	11/4	5	25	1 1/2	25/16	2	1/4	7/16
HUB5	11/2	2	20	15/8	21/2	2 ³ / ₈	1/4	7/16
HUB6	2	1	10	1 11/ ₁₆	3	213/16	1/4	7/16
HUB7	21/2	1	10	23/16	35/8	37/16	1/4	7/16
HUB8	3	1	5	27/16	$4^{1}/_{4}$	41/16	1/4	7/16
HUB9	31/2	1	5	27/16	$4^{3}/_{4}$	411/16	5/16	3/4
HUB10	4	1	2	29/16	51/4	51/16	5/16	11/8

Note: Dimension "x" is maximum wall thickness of box that will meet the requirement for three full threads engagement of nipple and fitting body when box connector or rigid conduit hub is installed in a knockout or slip hole.



Applications:

XD couplings can be installed indoors, outdoors, buried underground, or embedded in concrete in non-hazardous areas. XD's are used with standard rigid conduit or PVC rigid conduit. (PVC requires rigid metal conduit nipples and rigid metal-to-PVC conduit adapters.) XD's provide a flexible and watertight connection for protection of conduit wiring systems from damage due to movement.

Typical applications include:

- Underground conduit feeder runs
- Runs between sections of concrete subject to relative movement
- Runs between fixed structures
- · Conduit entrances in high-rise buildings
- Bridges
- Marinas, docks, piers

Features:

- XD couplings accommodate the following movements without collapsing or fracturing the conduit, and damaging the wires it contains:
 - 1. Axial expansion or contraction up to 3/4"
 - 2. Angular misalignment of the axes of the coupled conduit runs in any direction to 30°
 - 3. Parallel misalignment of the axes of coupled conduit runs in any direction to 3/4"
- Inner sleeve maintains constant I.D. in any position and provides a smooth insulated wireway for protection of wire insulation
- Watertight flexible neoprene outer jacket is corrosion resistant and protects the grounding strap and the attachment points of the hubs
- Tinned copper flexible braid grounding straps assure grounding continuity
- Stainless steel jacket clamps for strength and corrosion resistance
- Standard tapered electrical threads fit standard rigid conduit

Certifications and Compliances:

• UL standards: 514B

Standard Materials:

- Integral hub bushing protects insulation of conductors
- Hubs Feraloy® iron alloy
- Outer jacket molded neoprene
- Jacket clamps stainless steel
- Inner sleeve molded plastic
- Grounding straps tinned copper flexible braid

Standard Finishes:

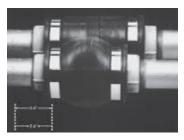
- Feraloy electrogalvanized
- Neoprene natural (black)
- Molded plastic natural (brown)

Options:

Hot dipped galvanized HDG

Size Ranges:

• 1" to 6" (Smaller sizes can be obtained by using reducing bushings)

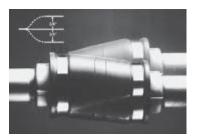


1. Axial expansion/contraction.



2. Angular misalignment.

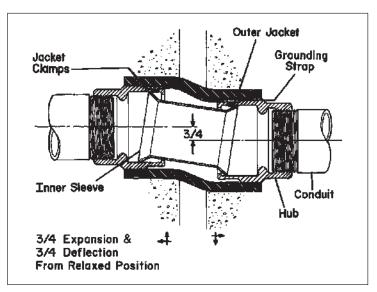
XD Hub Size	Cat. #	Hub Size	Cat. #
1	XD3	3	XD8
11/4	XD4	31/2	XD9
11/2	XD5	4	XD010
2	XD6	5	XD012
21/2	XD7	6	XD014



3. Parallel misalignment.

Hub		
Size	а	b
1	7	315/16
1- 1/4	7 ³ / ₈	41/4
11/2	71/4	41/2
2	71/4	415/16
21/2	71/2	55/16
3	7 ⁵ / ₈	5 ¹⁵ / ₁₆
31/2	73/4	61/2
4 5	7 ⁷ / ₈	615/16
	73/4	8
6	83/8	9





XJG Conduit Expansion Joints With Internal Grounding For Rigid Metal Conduit and IMC

Applications:

XJG expansion couplings are used with rigid metal conduit and IMC:

- Without the need for an external bonding jumper and clamps (up to 4")
- To couple together two (2) sections of conduit subject to longitudinal movement
- In long conduit runs to permit linear movement caused by thermal expansion and contraction.
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures
- Indoors or outdoors where conduit expansion occurs and there are wide temperature ranges
- In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- With optional redundant visible grounding strap

Certifications and Compliances:

- UL Standard: 514B
- CSA Standard: C22.2 No. 18
- NEC Articles 250-77 and 300-7 (b)
- NEMA FB1
- Wet Locations

Materials and Finishes:

3ody

- Steel-electrogalvanized
- Copper-free aluminum natural
- Feraloy® iron alloy electrogalvanized (5" + 6" only)

Reducer

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural

Gland Nut

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural

Packing

• Teflon® (trademark of E.I. DuPont Co.)

Washer

- Steel electrogalvanized
- Copper-free aluminum natural

Gasket

Vellum

Bushing

- $\frac{1}{2}$ " through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural



Patented Design

XJG - For use with rigid metal conduit and IMC

Conduit Size	Maximum Conduit Movement	Cat. #	Optional Bonding Jumper†	A Diameter	B Length	Bonding Jumper Length
1/2	4	XJG14	BJ14	1.75	6.75	20"
	8	XJG18	BJ18	1.75	10.75	30"
3/4	4	XJG24	BJ24	2.12	6.75	20"
	8	XJG28	BJ28	2.12	10.75	30"
1	4	XJG34	BJ34	2.43	7.25	20"
	8	XJG38	BJ38	2.43	11.25	30"
11/4	4	XJG44	BJ44	3.19	7.56	24"
	8	XJG48	BJ48	3.19	11.56	30"
11/2	4	XJG54	BJ54	3.68	7.87	24"
	8	XJG58	BJ58	3.68	11.87	30"
2	4	XJG64	BJ64	4.75	8.25	24"
	8	XJG68	BJ68	4.75	12.25	30"
21/2	4	XJG74	BJ74	4.87	9.31	24"
	8	XJG78	BJ78	4.87	13.31	36"
3	4	XJG84	BJ84	5.37	10.00	30"
	8	XJG88	BJ88	5.37	14.00	36"
31/2	4	XJG94	BJ94	6.62	9.81	30"
	8	XJG98	BJ98	6.62	13.81	36"
4	4	XJG104	BJ104	6.62	9.81	30"
	8	XJG108	BJ108	6.62	13.81	36"
5	8	XJ128‡	_	7.64	15.50	_
6	8	XJ148‡		9.56	16.00	_

†XJG expansion couplings use a metallic bushing and ground springs to create a high integrity internal ground connection. External ground straps offer a redundant ground path and easy visible indication of ground ‡XJ128 and XJ148 are not internally grounded. A pair of 36" bonding jumpers are provided with fitting.

Suffix

HDG

SA

Ground Springs

• Phosphor bronze - electrogalvanized

Ground Strap

Braided tinned copper

U-Bolts

• Malleable iron - electrogalvanized

Options:

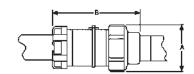
Description

Available in copper-free aluminum
Not available on 5" and 6" sizes
Hot dipped galvanized
Available with redundant† ground
strap for visible indication of
grounding – order separately
(BJ Series)

Size Ranges:

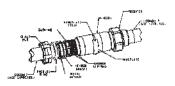
- 1/2" through 6" conduit size
- 4" and 8" maximum conduit movement

Dimensions In Inches:





XJG shown with optional bonding jumper



XJG-EMT Conduit Expansion Joints With Internal Grounding For EMT Conduit

Applications:

XJG expansion couplings are used with EMT Conduit:

- Without the need for an external bonding jumper and clamps
- To couple together two (2) sections of conduit subject to longitudinal movement
- In long conduit runs to permit linear movement caused by thermal expansion and contraction.
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures
- Indoors or outdoors where conduit expansion occurs and there are wide temperature ranges
- In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- With optional redundant visible grounding strap

Certifications and Compliances:

• UL Standard: 514B

CSA Standard: C22.2 No. 18

• NEC Articles 250-77 and 300-7 (b)

NEMA FB1

Materials and Finishes:

Body

- Steel-electrogalvanized
- Copper-free aluminum natural Reducer
- 1/2" through 1" Steel electrogalvanized
- 11/4" through 4" Feraloy® iron alloy electrogalvanized and aluminum paint

Gland Nut

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 4" Feraloy® iron alloy electrogalvanized and aluminum paint

Packing

- Teflon® (trademark of E.I. DuPont Co.) Washer
- Steel electrogalvanized Gasket
- Vellum

Bushing

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 4" Feraloy® iron alloy electrogalvanized and aluminum paint

Ground Springs

- Phosphor bronze electrogalvanized Ground Strap
- · Braided tinned copper

U-Bolts

• Malleable iron – electrogalvanized

Options:

Available with redundant† ground strap for visible indication of grounding – order separately (BJ Series)

Size Ranges:

- 1/2" through 4" conduit size
- 4" maximum conduit movement

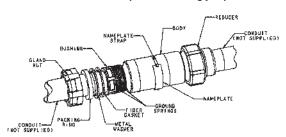
XJG-EMT - for use with EMT conduit



Conduit Size	Maximum Conduit Movement	Cat. #	Optional Bonding Jumper	A Diameter	B Length
1/2"	4"	XJG14 EMT	BJ14	13/4"	103/4"
3/4"	4"	XJG24 EMT	BJ24	21/8"	11"
1"	4"	XJG34 EMT	BJ34	27/16"	111/2"
11/4"	4"	XJG44 EMT	BJ44	31/8"	151/4"
11/2"	4"	XJG54 EMT	BJ54	35/8"	151/2"
2"	4"	XJG64 EMT	BJ64	43/4"	151/2"
21/2"	4"	XJG74 EMT	BJ74	47/8"	183/4"
3"	4"	XJG84 EMT	BJ84	53/8"	197/8"
31/2"	4"	XJG94 EMT	BJ94	65/8"	211/4"
4"	4"	XJG104 EMT	BJ104	6 ⁵ / ₈ "	211/4"



XJG shown with optional bonding jumper



†XJG expansion couplings use a metallic bushing and ground springs to create a high integrity internal ground connection. External ground straps offer a redundant ground path and easy visible indication of ground

XJGD Combination Expansion/Deflection Coupling and Expansion Joint Internally Grounded

Applications:

XJGD combination fittings are used with rigid metal conduit and IMC:

- To accommodate axial expansion, angular misalignment and parallel misalignment
- To couple together two (2) sections of conduit subject to longitudinal movement
- To maintain a ground connection without the need for an external bonding jumper and clamps
- In long conduit runs to prevent conduit from buckling and causing circuit failures
- Indoors or outdoors where conduit expansion occurs and there are wide temperature swings
- In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge

Certifications and Compliances:

• UL standard: 514B

Standard Materials:

- Body, Hubs, Gland Nut, Washer, Bushing – Feraloy®
- Packing Teflon®
- Gasket vellum
- Ground Spring phosphor bronze
- Outer Jacket molded neoprene
- Jacket Clamps stainless steel
- Inner Sleeve molded plastic
- Ground Straps tinned copper braid

Standard Finishes:

• Feraloy® - electrogalvanized

XJGD Ordering Information



Hub Size	Maximum Conduit Movement	Cat. #	A Diameter	B Length
1"	4"	XJGD34	315/16"	173/4"
11/4"	4"	XJGD44	41/4"	181/8"
11/2"	4"	XJGD54	41/2"	185/8"
2"	4"	XJGD64	415/16"	191/4"
21/2"	4"	XJGD74	55/16"	203/4"
3"	4"	XJGD84	5 ¹⁵ / ₁₆ "	215/8"
31/2"	4"	XJGD94	61/2"	215/8"
4"	4"	XJGD104	8"	273/4"

Liquidator™ Liquidtight Flexible Metallic Conduit Fittings

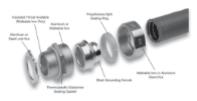
Eaton's Crouse-Hinds liquidtight product line offers high-quality, high-performance fittings. Designed to the toughest standards and integrating the latest technology, not only do you get a reliable and durable product, you also get one that reduces installation time and cost. Our versatile lines of liquidtight fittings are designed for a wide range of applications. Choose from our Liquidator™, LiQuik™, Zinc Die Cast, Non-Metallic or Low Profile liquidtight fittings.

Applications:

S

Typical applications for liquidtight conduit and liquidtight fittings include the wiring of machine tools, motors, transformers, food processing equipment, robotics, air conditioning units, illuminated store front signs and billboards, etc. The flexible metallic conduit and fittings protect conductors from mechanical damage due to vibration and movement, and seal out cutting oils, coolants, water, dust, etc. Applications such as these can be found in, but are not limited to, industries such as:

- · Machine tool manufacturers
- Electric power generating plants
- · Waste treatment facilities
- · Paint manufacturing facilities
- · Automobile manufacturing facilities
- · Aerospace industries
- Breweries
- · Food processing plants
- Dairies
- · Pulp and paper mills
- · Petroleum refineries
- · Chemical and petrochemical plants



Certifications and Compliances:

- UL Listed liquidtight flexible metal conduit fittings are suitable for use in the following hazardous locations under NEC, Class I, Division 2; Class II, Division 1 and 2; and Class III, Division 1 and 2, and are suitable for grounding in sizes $^3/_8"$ through $11/_4"$ under NEC.
- UL Standards: 514B, 467
- cUL Standard: C22.2 No. 18F
- UL File No. E-19189

Standard Materials:

- Body Straight: 3/8" through 6" malleable iron, or 3/8" through 4" aluminum 45° – 3/8" through 4" malleable iron 90° – 3/8" through 4" – malleable iron or aluminum
- Gland nut malleable iron or aluminum
- Ferrule 3/8" through 6" steel
- Gland nut sealing ring polyethylene
- Sealing gasket thermoplastic elastomer
- Locknut steel or aluminum

Standard Finishes:

- Malleable iron zinc electroplate
- · Polyethylene, thermoplastic elastomer, aluminum and die cast - natural

Product Features	User Benefits
UL Listed, cUL Certified.	Assurance of safe and reliable performance. End user peace of mind.
Provides protection in wet locations.	Meets NEC and UL requirements for use in wet locations. Reduces downtime and replacement costs.
Available in various configurations in various trade sizes and materials.	Complete selection of styles and sizes. Easy selection from one source, saves time and money.
Hex surfaces on gland nut and body.	Easy wrenching. Fast, easy installation results in labor savings.
 Thermoplastic elastomer sealing gasket effectively seals out water, oil, dust and dirt. 	Eliminates leakage, potential downtime and replacement costs.
Lock nut bites into box, won't vibrate loose.	Provides a reliable ground and safety of personnel and equipment.
Cupped long grounding ferrule is distortion-free.	Provides excellent pullout strength, prevents conduit popout and provides grounding for safety of personnel and equipment.
Concrete tight	Provides rugged durability in concrete applications.

Family	Material	Size/Range	Configurations	Typical Applications
Liquidator	Malleable Iron	3/8"-6"	Straight, 45°, 90°	Tough, industrial, corrosive for STANDARD APPLICATIONS Temp. Rating -40° to 85°C
Liquidator Aluminum LT-SA	Copper-free Aluminum	3/8"-4"	Straight & 90°*	Tough, industrial, corrosive applications where ALUMINUM MATERIAL PREFERRED
LTK Low Profile	Steel/Malleable Iron	3/8"-2"	Straight, 45°, 90°	Tough, industrial, corrosive applications with SPACE RESTRICTIONS
LTQ LiQuik	Malleable Iron	3/8"-2"	Straight, 45°,90°	Tough, industrial, corrosive applications needing NO DISASSEMBLY INSTALLATIONS
LTDC Zinc Die Cast	Zinc Die Cast	3/8"-4"	Straight & 90°	Tough, industrial, corrosive applications where ZINC DIE CAST MATERIAL PREFERRED
LTNM Non-Metallic	Nylon	3/8"-2"	Straight & 90°	Tough, industrial, corrosive for use with NON-METALLIC TYPE B LIQUIDTIGHT CONDUIT

^{* 90°} LT-SA available in 3/8"-2" only

Liquidator™ Liquidtight Flexible Metallic Conduit Fittings



Straight Connectors

Malleable Iron								Aluminum		
Conduit Size	Non-Insulated Cat. No.	Insulated Cat. No.	Non-Insulated with Aluminum Grounding Lug Cat. No.	Insulated with Aluminum Grounding Lug Cat. No.	Insulated with Copper Grounding Lug Cat. No.	Lug Size	Non-Insulated Aluminum Cat. No.	Non-Insulated with Aluminum Grounding Lug Cat. No.		
3/8"	LT38	LTB38	LT38G	LTB38G	LTB38GC	#4-#14	LT38 SA	LT38G SA		
1/2"	LT50	LTB50	LT50G	LTB50G	LTB50GC	#4-#14	LT50 SA	LT50G SA		
3/4"	LT75	LTB75	LT75G	LTB75G	LTB75GC	#4-#14	LT75 SA	LT75G SA		
1"	LT100	LTB100	LT100G	LTB100G	LTB100GC	#4-#14	LT100 SA	LT100G SA		
11/4"	LT125	LTB125	LT125G	LTB125G	LTB125GC	#4-#14	LT125 SA	LT125G SA		
11/2"	LT150	LTB150	LT150G	LTB150G	LTB150GC	#4-#14	LT150 SA	LT150G SA		
2"	LT200	LTB200	LT200G	LTB200G	LTB200GC	#4-#14	LT200 SA	LT200G SA		
21/2"	LT250	LTB250	LT250G	LTB250G	LTB250GC	#1/0-#8	LT250 SA	LT250G SA		
3"	LT300	LTB300	LT300G	LTB300G	LTB300GC	#1/0-#8	LT300 SA	LT300G SA		
31/2"	LT350	LTB350	LT350G	LTB350G	LTB350GC	#3/0-#6	LT350 SA	LT350G SA		
4"	LT400	LTB400	LT400G	LTB400G	LTB400GC	#3/0-#6	LT400 SA	LT400G SA		
5"	LT500†	LTB500†	LT500G†	LTB500G†	_	250MCM-#6	_	_		
6"	LT600†	LTB600†	LT600G†	LTB600G†	_	250MCM-#6	_	_		

†Not UL Listed or CSA Certified



45° Angle Connectors

Malleable Iron							
Conduit Size	Non-Insulated Cat. No.	Insulated Cat. No.	Non-Insulated with Aluminum Grounding Lug Cat. No.	Insulated with Aluminum Grounding Lug Cat. No.	Insulated with Copper Grounding Lug Cat. No.	Lug Size	Non-Insulated Aluminum Cat. No.
1/8"	LT3845	LTB3845	LT3845G	LTB3845G	LTB3845GC	#4-#14	_
/2"	LT5045	LTB5045	LT5045G	LTB5045G	LTB5045GC	#4-#14	_
/ ₄ "	LT7545	LTB7545	LT7545G	LTB7545G	LTB7545GC	#4-#14	_
"	LT10045	LTB10045	LT10045G	LTB10045G	LTB10045GC	#4-#14	
1/4"	LT12545	LTB12545	LT12545G	LTB12545G	LTB12545GC	#4-#14	_
1 1/2"	LT15045	LTB15045	LT15045G	LTB15045G	LTB15045GC	#4-#14	_
2"	LT20045	LTB20045	LT20045G	LTB20045G	LTB20045GC	#4-#14	_
21/2"	LT25045	LTB25045	LT25045G	LTB25045G	LTB25045GC	#1/0-#8	_
3"	LT30045	LTB30045	LT30045G	LTB30045G	LTB30045GC	#1/0-#8	_
31/2"	LT35045	LTB35045	LT35045G	LTB35045G	LTB35045GC	#3/0-#6	_
4"	LT40045	LTB40045	LT40045G	LTB40045G	LTB40045GC	#3/0-#6	

Liquidator™ Liquidtight Flexible Metallic Conduit Fittings

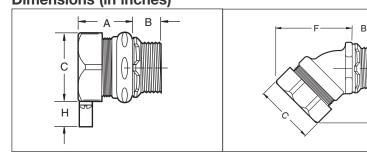


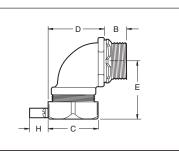
90° Angle Connectors

Malleable Iron								
Conduit Size	Non- Insulated Cat. No.	Insulated Cat. No.	Non-Insulated with Aluminum Grounding Lug Cat. No.	Insulated with Aluminum Grounding Lug Cat. No.	Insulated with Copper Grounding Lug Cat. No.	Lug Size	Non-Insulated Aluminum Cat. No.	Non-Insulated with Aluminum Grounding Lug Cat. No.
3/8"	LT3890	LTB3890	LT3890G	LTB3890G	LTB3890GC	#4-#14	LT3890 SA	LT3890G SA
1/2"	LT5090	LTB5090	LT5090G	LTB5090G	LTB5090GC	#4-#14	LT5090 SA	LT5090G SA
3/4"	LT7590	LTB7590	LT7590G	LTB7590G	LTB7590GC	#4-#14	LT7590 SA	LT7590G SA
1"	LT10090	LTB10090	LT10090G	LTB10090G	LTB10090GC	#4-#14	LT10090 SA	LT10090G SA
11/4"	LT12590	LTB12590	LT12590G	LTB12590G	LTB12590GC	#4-#14	LT12590 SA	LT12590G SA
11/2"	LT15090	LTB15090	LT15090G	LTB15090G	LTB15090GC	#4-#14	LT15090 SA	LT15090G SA
2"	LT20090	LTB20090	LT20090G	LTB20090G	LTB20090GC	#4-#14	LT20090 SA	LT20090G SA
21/2"	LT25090	LTB25090	LT25090G	LTB25090G	LTB25090GC	#1/0-#8		
3"	LT30090	LTB30090	LT30090G	LTB30090G	LTB30090GC	#1/0-#8		
31/2"	LT35090	LTB35090	LT35090G	LTB35090G	LTB35090GC	#3/0-#6		
4"	LT40090	LTB40090	LT40090G	LTB40090G	LTB40090GC	#3/0-#6		

Liquidator™ Liquidtight Flexible Metallic Conduit Fittings

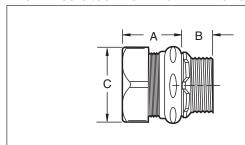
Non-Insulated Malleable Iron Dimensions (in inches)

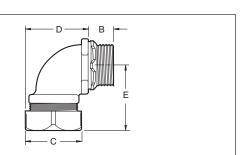




Trade Size	Α	В	С	D	E	F	G	Н
3/8"	11/8"	1/2"	11/8"	15/16"	15/8"	115/16"	11/2"	3/4"
1/2"	11/4"	1/2"	11/4"	17/16"	15/8"	2"	11/2"	3/4"
3/4"	11/4"	1/2"	19/16"	15/8"	13/4"	23/16"	19/16"	3/4"
1"	1 ⁷ / ₁₆ "	5/8"	1 13/ ₁₆ "	25/16"	21/8"	21/2"	1 13/16"	3/4"
11/4"	11/2"	11/16"	21/4"	23/8"	21/4"	213/16"	23/16"	3/4"
11/2"	15/8"	3/4"	27/16"	311/16"	23/8"	3"	27/16"	3/4"
2"	13/4"	3/4"	3"	33/16"	23/4"	311/16"	213/16"	3/4"
21/2"	23/16"	1"	4"	85/16"	83/16"	75/16"	47/16"	11/8"
3"	21/2"	11/8"	43/16"	913/16"	93/8"	7 ⁵ / ₈ "	51/2"	11/8"
31/2"	25/8"	13/16"	51/4"	113/16"	111/4"	95/8"	5 ¹⁵ / ₁₆ "	11/2"
4"	23/4"	11/4"	53/4"	13"	129/16"	111/16"	85/16"	11/2"
5"	31/8"	17/16"	61/16"					111/16"
6"	33/8"	11/2"	73/4"					111/16"

Non-Insulated Aluminum Dimensions





Trade Size	Α	В	С	D	E
3/8"	13/16"	19/32"	11/4"	17/16"	13/8"
1/2"	1 5/ ₁₆ "	19/32"	11/4"	11/2"	13/8"
3/4"	15/16"	19/32"	11/2"	1 11/16"	11/2"
1"	17/16"	13/16"	13/4"	2"	1 13/16"
11/4"	19/16"	13/16"	21/4"	27/16"	25/32"
11/2"	1 13/ ₁₆ "	13/16"	21/2"	213/16"	27/16"
2"	13/4"	7/8"	3"	33/16"	27/8"
21/2"	21/4"	1 1/ ₁₆ "	33/4"		
3"	2 ⁷ / ₁₆ "	11/8"	41/2"		
31/2"	27/8"	13/16"	5 ¹ / ₈ "		
4"	215/16"	11/4"	55/8"		

ZINC DIE CAST LIQUIDTIGHT FITTING

Applications:

To terminate and seal liquidtight flexible metal conduit to oiltight, liquidtight, or raintight box or enclosure. Connectors can be used with tapered thread female entry or unthreaded knockout using the provided sealing washer and lock nut.

Features:

- Furnished with lock nut and sealing ring
- Liquidtight/Raintight/Oiltight
- Suitable for wet locations

Standard Materials:

Zinc Die Cast

Standard Finishes:

Natural

Straight Connectors - Non-Insulated







Cat. #	Conduit Size	Unit Qty.	Α	В	С	D
LT38DC	3/8"	25	1.07	.96	.62	.47
LT50DC	1/2"	25	1.07	1.08	.62	.47
LT75DC	3/4"	15	1.07	1.33	.82	.47
LT100DC	1"	8	1.34	1.56	1.02	.57
LT125DC	11/4"	5	1.15	1.94	1.36	.71
LT150DC	11/2"	4	1.52	2.19	1.60	.71
LT200DC	2"	2	1.54	2.66	2.07	.71
LT250DC	21/2"	1	2.20	3.28	2.51	1.06
LT300DC	3"	1	2.22	3.80	3.13	1.06
LT350DC	31/2"	1	2.36	4.28	3.58	1.06
LT400DC	4"	1	2.44	4.78	4.05	1.06

Straight Connectors - Insulated

UL File No. E-19189







	Conduit	Unit				
Cat. #	Size	Qty.	Α	В	С	D
LTB38DC	3/8"	25	1.44	.96	.62	.47
LTB50DC	1/2"	25	1.44	1.08	.62	.47
LTB75DC	3/4"	15	1.56	1.33	.82	.47
LTB100DC	1"	8	2.01	1.56	1.02	.57
LTB125DC	11/4"	5	2.18	1.94	1.36	.71
LTB150DC	11/2"	4	2.19	2.19	1.60	.71
LTB200DC	2"	2	2.21	2.66	2.07	.71
LTB250DC	21/2"	1	2.89	3.28	2.51	1.06
LTB300DC	3"	1	2.93	3.80	3.13	1.06
LTB350DC	31/2"	1	3.07	4.28	3.58	1.06
LTB400DC	4"	1	3.15	4.78	4.05	1.06

90° Angle Connectors - Non-Insulated

UL File No. E-19189







	Conduit	Unit				
Cat. #	Size	Qty.	Α	В	С	D
LT3890DC	3/8"	25	.62	.81	.92	1.22
LT5090DC	1/2"	25	.62	.91	1.02	1.22
LT7590DC	3/4"	15	.80	1.15	1.27	1.36
LT10090DC	1"	8	1.02	1.38	1.48	1.73
LT12590DC	11/4"	5	1.36	1.77	1.93	2.11
LT15090DC	11/2"	4	1.61	2.01	2.17	2.43
LT20090DC	2"	2	2.08	2.58	2.68	2.93
LT25090DC	21/2"	1	2.51	3.15	3.21	3.62
LT30090DC	3"	1	3.13	3.67	3.74	4.28
LT35090DC	31/2"	1	3.58	4.17	4.23	4.84
LT40090DC	4"	1	4.06	4.74	4.75	5.37

90° Angle Connectors - Insulated





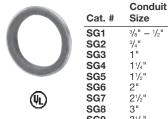


Cat. #	Conduit Size	Unit Qty.	Α	В	С	D
LTB3890DC	3/8"	25	.62	.81	.92	1.22
LTB5090DC	1/2"	25	.62	.91	1.02	1.22
LTB7590DC	3/4"	15	.80	1.15	1.27	1.36
LTB10090DC	1"	8	1.02	1.38	1.48	1.73
LTB12590DC	11/4"	5	1.36	1.77	1.93	2.11
LTB15090DC	11/2"	4	1.61	2.01	2.17	2.43
LTB20090DC	2"	2	2.08	2.58	2.68	2.93
LTB25090DC	21/2"	1	2.51	3.15	3.21	3.62
LTB30090DC	3"	1	3.13	3.67	3.74	4.28
LTB35090DC	31/2"	1	3.58	4.17	4.23	4.84
LTB40090DC	4"	1	4.06	4.74	4.75	5.37

Liquidtight Fittings Accessories

SELF RETAINING PVC GASKET WITH STEEL RING

UL File no. E-22133



_	340	~	20	0	
(II)	SG7	21/2"	10	5	
9	SG8	3"	10	10	
	SG9	31/2"	10	12	
$\overline{}$	SG10	4"	10	10	
։(Մ)	SG11	5"	5	15	
	SG12	6"	5	22	

COMBINATION COUPLINGS FOR **COUPLING LIQUIDTIGHT TO THREADED** RIGID/IMC CONDUIT







	Conduit	Unit	Wt. Lbs.				
Cat. #	Size	Qty.	Per 100				
LTR38*	3/8"	25	17				
LTR50	1/2"	25	29				
LTR75	3/4"	25	33				
LTR100	1"	5	59				
LTR125	11/4"	2	105				
LTR150	11/2"	2	105				
LTR200	2"	1	160				
*For 3/8" Liquidtight to 1/2" Rigid/IMC							

Unit

Qty.

100

50

50

25

25

Wt. Lbs.

Per 100

2

2

COMBINATION COUPLINGS FOR COUPLING LIQUIDTIGHT TO THREADED RIGID/IMC - GROUNDING TYPE -**ALUMINUM LUG**



Cat. #	Conduit Size	Lug Size	Unit Qty.	Wt. Lbs. Per 100			
LTR38G*	3/8"	#4 – #14	25	24			
LTR50G	1/2"	#4 - #14	25	30			
LTR75G	3/4"	#4 - #14	25	35			
LTR100G	1"	#4 – #14	5	59			
LTR125G	11/4"	#4 – #14	5	81			
LTR150G	11/2"	#4 - #14	2	107			
LTR200G	2"	#4 – #14	1	162			
*For 3/8" Liquidtight to 1/2" Rigid/IMC							



Note: For other connector and lug combinations, consult

Copper lugs are available also. Consult factory for

WIRE MESH GRIPS FOR LIQUIDTIGHT **METALLIC CONDUIT FITTINGS**



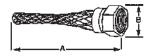
Applications:

- Wire mesh grips are used with malleable iron Liquidator liquidtight conduit fittings to prevent conduit pullout due to stress, tension, strain, vibration, or movement.
- Typical applications include the wiring of machine tools, motors, transformers, food processing, equipment, robotics, or any application that requires a flexible liquidtight conduit connection.

Materials:

• Nut - Malleable iron, Ring - Aluminum, Mesh - Stainless steel

Wire Mesh Grip - Dimensions





		Dimens	ions			
Cat. #	Conduit Size	Α	В	Unit Qty.	Wt. Lbs. Per 100	
WMG38	3/8"	67/16"	11/4"	10	10	
WMG50	1/2"	61/8"	17/16"	10	12	
WMG75	3/4"	615/16"	15/8"	10	17	
WMG100	1"	83/16"	1 15/16"	10	21	
WMG125	11/4"	10³/₄"	23/8"	2	37	
WMG150	11/2"	1113/16"	23/4"	2	56	
WMG200	2"	14 ⁷ / ₁₆ "	35/16"	1	79	

For use with malleable iron Liquidator liquidtight conduit fittings.

REPLACEMENT LIQUIDTIGHT FERRULES

For Liquidator Liquidtight Fittings Only



	Conduit	Unit
Cat. #	Size	Qty.
FEA38	3/8"	100
FEA50	1/2"	100
FEA75	3/4"	100
FEA100	1"	100
FEA125	11/4"	50
FEA150	11/2"	50
FEA200	2"	10
FEA250	21/2"	10
FEA300	3"	10
FEA350	31/2"	10
FEA400	4"	10

LiQuik™ Liquidtight Fittings

LiQuik™ LIQUIDTIGHT FITTINGS -MALLEABLE IRON



No disassembly required! The LiQuik™ liquidtight fittings are quick and easy to install in 2 steps, offering huge labor saving potential. Available in trade sizes ⅓"−2" straight, 45° and 90°; in insulated or noninsulated. Product features a black gland nut for easy identification and no disassembly required.

Traditional Assembly Installation





1. Slide nut over conduit.



4. Slide the conduit assembly inside body.



2. Slide compression ring over conduit.



3. Thread ferrule inside the conduit.

Slide compression nut and ring towards the connector.



6. Tighten the nut.

New LiQuik Assembly Installation In Just 2 Steps:





Slide conduit inside the fully assembled connector.



2. Turn the connector assembly or the conduit until the ferrule threads engage the spirals in the conduit. The pins in the ferrule are locked inside the holes in the connector body, preventing the ferrule from turning. Tighten the nut against the connector.

LiQuik™ Liquidtight Fittings – Straight, Non-Insulated







Dimonoiono

					Dillie	1121011	5
Cat. #	Conduit Size	KO Size	Unit Qty.	Wt. Lbs. Per 100	Α	В	С
LTQ38	3/8"	1/2"	25	15	11/8"	1/2"	11/8"
LTQ50	1/2"	1/2"	25	18	11/4"	1/2"	11/4"
LTQ75	3/4"	3/4"	25	29	11/4"	1/2"	19/16"
LTQ100	1"	1"	5	40	17/16"	5/8"	1 13/16"
LTQ125	11/4"	11/4"	5	55	11/2"	11/16"	21/4"
LTQ150	11/2"	11/2"	2	71	1 ⁵ / ₈ "	3/4"	27/16"
LTQ200	2"	2"	1	99	13/4"	3/4"	3"

LiQuik™ Liquidtight Fittings - Straight, Insulated







					Dime	ension	s
Cat. #	Conduit Size	KO Size	Unit Qty.	Wt. Lbs. Per 100	Α	В	С
LTQB38	3/8"	1/2"	25	16	11/8"	9/16"	11/8"
LTQB50	1/2"	1/2"	25	18	11/4"	9/16"	11/4"
LTQB75	3/4"	3/4"	25	29	11/4"	9/16"	19/16"
LTQB100	1"	1"	5	40	17/16"	11/16"	1 13/16"
LTQB125	11/4"	11/4"	5	56	11/2"	3/4"	21/4"
LTQB150	11/2"	11/2"	2	71	15/8"	13/16"	27/16"
LTQB200	2"	2"	1	100	13/4"	13/16	3"

LiQuik™ Liquidtight Fittings – 45°, Insulated and Non-Insulated





Cat. #	Conduit Size	KO Size	Unit Qty.	Wt. Lbs. Per 100
Non-Insulated				
LTQ5045	1/2"	1/2"	25	29
LTQ7545	3/4"	3/4"	10	41
LTQ10045	1"	1"	10	70
Insulated				
LTQB5045	1/2"	1/2"	25	29
LTQB7545	3/4"	3/4"	10	33
LTQB10045	1"	1"	10	70

LiQuik[™] Liquidtight Fittings – 90°, Insulated and Non-Insulated





Cat. #	Conduit Size	KO Size	Unit Qty.	Wt. Lbs. Per 100
Non-Insulated				
LTQ5090	1/2"	1/2"	25	33
LTQ7590	3/4"	3/4"	10	41
LTQ10090	1"	1"	10	76
Insulated				
LTQB5090	1/2"	1/2"	25	33
LTQB7590	3/4"	3/4"	10	48
LTQB10090	1"	1"	10	76

Replacement LiQuik™ Ferrules

Cat. #	Conduit Size	Wt. Lbs. Per 100	
LTQF38	3/8"	100	
LTQF50	1/2 "	100	
LTQF75	3/4"	100	
LTQF100	1"	100	
LTQF125	11/4"	50	
LTQF150	11/2"	50	
LTQF200	2"	10	

LTK Low Profile Liquidtight Fittings

Low Profile Liquidtight Fittings

Applications:

- Flexible metallic (liquidtight) conduit used with Eaton's Crouse-Hinds Liquidtight Fittings is designed to protect conductors from mechanical damage due to vibration and movement while sealing out cutting oils, coolants, water, dust, etc.
- Typical applications include the wiring of machine tools, motors, transformers, food processing equipment, robotics, air conditioning units, illuminated signs, etc.
- The low profile liquidtight fittings are designed specifically for OEM applications that require close side-by-side mounting of multiple liquidtight fittings in tight spaces.

Certifications and Compliances:

NFC:

Class I, Division 2 (Zone 2) Class II, Division 1 and 2 Class III, Division 1 and 2

- UL Standards: 514B, 467
- CSA Standard: C22.2 No. 18

Standard Materials:

- Body steel (straight fittings), malleable iron (angle fittings)
- Gland nut steel
- Ferrule steel
- Gland nut sealing ring nylon
- Sealing gasket polypropylene

Standard Finishes:

- Steel zinc electroplate
- Malleable iron zinc electroplate
- Nylon natural
- Polypropylene natural

Replacement Ferrules								
Conduit		\sim						
Size	Cat. #							
3/8"	LTKF38	(40)						
1/2 " 3/4 "	LTKF50	1111 1 111						
3/4"	LTKF75							
1"	LTKF100							
11/4"	LTKF125							
11/2"	LTKF150							
2"	LTKF200							

Ordering & Dimensional Information







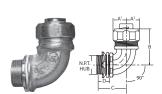
Conduit Size	Non-Insulated Cat. No.	Insulated Cat. No.	Over Round Corner A ¹	Hex A ²	В	N.P.T. Thread Length C
3/8"	LTK38	LTBK38	13/32"	11/32"	13/16"	19/32"
1/2"	LTK50	LTBK50	13/16"	11/8"	1 11/32"	19/32 "
3/4"	LTK75	LTBK75	1 7/ ₁₆ "	13/8"	1 7/ ₁₆ "	19/32"
1"	LTK100	LTBK100	13/4"	1 11/16"	15/8"	21/32"
11/4"	LTK125	LTBK125	25/32"	21/16"	127/32"	43/64"
11/2"	LTK150	LTBK150	23/8"	29/32"	2"	23/32"
2"	LTK200	LTBK200	27/0"	225/20"	21/6"	23/2011

45° Angle Connectors — Malleable Iron



TO AII	gie Comilec			OII			
Conduit Size	Non-Insulated Cat. No.	Insulated Cat. No.	Over Round Corner A ¹	Hex A ²	В	С	N.P.T. Thread Length D
3/8"	LTK3845	LTBK3845	13/32"	11/32"	17/32"	11/32"	19/32"
1/2"	LTK5045	LTBK5045	13/16"	11/32"	15/16"	11/32"	19/32"
3/4"	LTK7545	LTBK7545	17/16"	13/8"	13/8"	11/8"	13/32 "
1"	LTK10045	LTBK10045	13/4"	1 11/16"	121/32"	11/4"	21/32 "
11/4"	LTK12545	LTBK12545	25/32"	21/16"	123/32"	1 11/32"	11/16"
11/2"	LTK15045	LTBK15045	23/8"	29/32"	2"	1 15/32"	23/32"
2"	LTK20045	LTBK20045	2 ⁷ / ₈ "	225/32"	29/32"	15/8"	23/32 11

90° Angle Connectors - Malleable Iron



Conduit	Non-Insulated	Insulated	Over Round				N.P.T. Thread
Size	Cat. No.	Cat. No.	Corner A ¹	Hex A ²	В	С	Length D
3/8"	LTK3890	LTBK3890	13/32"	11/32"	1 19/32"	11/4"	9/16"
1/2"	LTK5090	LTBK5090	13/16"	11/8"	121/32"	11/4"	9/16"
3/4"	LTK7590	LTBK7590	1 ⁷ / ₁₆ "	13/8"	125/32"	1 17/32"	9/16"
1"	LTK10090	LTBK10090	13/4"	1 11/ ₁₆ "	23/16"	127/32"	21/32"
11/4"	LTK12590	LTBK12590	25/32"	21/16"	23/8"	1 15/16"	11/16"
11/2"	LTK15090	LTBK15090	23/8"	29/32"	25/8"	23/32"	23/32"
2"	LTK20090	LTBK20090	27/8"	225/32"	31/16"	213/32"	23/32"

Space Saver and Steel Liquidtight Fittings

SPACE SAVER LIQUIDTIGHT FITTING

Features & Benefits:

- Liquidtight, Raintight, Oiltight for protection and long life in wet, dusty and corrosive environments
- Compact, slim diameter for tight space and neat appearance
- Male threads on the nut maximize space in box or enclosure and provides a smooth pulling surface eliminating the need for a bushing or insulated throat fitting-saving time & money
- Reusable, long ferrule prevents pull out and tight bend conduit "pop out"
- Hex shaped gland nut allows for easy wrenching, providing a fast tight installation
- Split sealing ring allows sealing ring to be installed after installation
 of ferrule and is reversible to ensure correct installation. Impossible
 to install incorrectly!
- Grooved design on rubber gasket allows for a snug, captive fit ensuring the gasket will not fall off during installation
- Available with optional aluminum grounding lug for easy ground wire termination

Certifications & Compliances:

- UL Listed
- cUL Listed

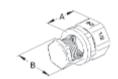
Standard Materials:

- Body: Malleable Iron
- Locknut: Steel
- Gasket: Rubber
- Lug: Aluminum

Standard Finishes:

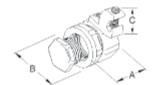
Zinc Plated





Cat. No.	Size	KO Size	Unit Qty	Wt. Lbs./100	Α	В
SSLT38	3/8"	1/2"	25	19	13/8"	13/16"
SSLT50	1/2"	1/2"	25	21	13/8"	15/16"
SSLT75	3/4"	3/4"		31	11/2"	19/16"
SSIT100	1"	1"	5	44	15/。"	17/0"





Cat. No.	Size	KO Size	Unit Qty	Wt. Lbs./100	Α	В	С
SSLT38G	3/8"	1/2"	25	23	13/8"	13/16"	3/4"
SSLT50G	1/2 11	1/2"	25	26	13/8"	15/16"	3/4"
SSLT75G	3/4"	3/4"		36	11/2"	19/16"	3/4"
SSLT100G	1"	1"	5	48	15/8"	17/8"	3/4"

STEEL LIQUIDTIGHT FITTING Applications:

To terminate and seal liquidtight flexible metal conduit to a box or enclosure. Connectors can be used with tapered thread female entry or unthreaded knockout using the provided sealing washer and lock nut.

Features & Benefits:

- Liquidtight, raintight, oiltight for protection and long life in wet, dusty and corrosive environments
- Compact, slim diameter for tight space and neat appearance
- Tapered threaded male hub NPT, maximizes space in box or enclosure and provides a smooth pulling surface, eliminating the need for a bushing or insulated throat fitting - saving time and money.
- Reusable, long ferrule prevents pull out and tight bend conduit "pop out"
- Hex shaped gland nut allows for easy wrenching, providing a fast, tight installation
- · Suitable for wet locations
- RoHS Compliant

Certifications & Compliances:

- cULus Listed
- UL Standard: 514B
- NEMA: FB-1
- UL File No. E-19189

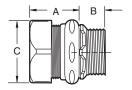
Standard Materials:

- Body: Steel
- Locknut: Steel
- Ferrule: Steel

Standard Finishes:

Zinc Plated





Straight Connectors - Steel

	Non-				
it	Insulated	Insulated	KO	Unit	Wt. Lbs.

		Cat. No.				Α	В	С
3/8"	LT38S	LTB38S	1/2"	25	11.4	1"	1/2"	11/16"
1/2"	LT50S	LTB50S	1/2"	25	16.3	17/16"	1/2"	11/4"
3/4"	LT75S	LTB75S	3/4"	25	22.1	15/8"	1/2"	19/16"
1"	LT100S	LTB100S	1"	25	35.4	25/16"	5/8"	1 13/16"

Non-Metallic Liquidtight Fittings

NON-METALLIC LIQUIDTIGHT CONDUIT FITTINGS

Applications:

- For use with nonmetallic Type B liquidtight conduit to terminate and seal conduit to liquidtight, oiltight, or raintight box or enclosure.
- Typical applications include wiring motors, transformers, processing equipment, pumps, etc.

Features:

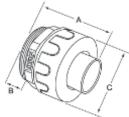
- Liquidtight, Raintight Oiltight
- Furnished with locknut and sealing ring
- Corrosion resistant
- Suitable for wet locations
- No-Spin ferrule
- 90° has smooth interior to prevent abrasion of conductors
- Molded of Type Nylon 6
- Flammability classification 94V-2; temperature index of -18°C to 125°C
- No disassembly required
- No threading of conduit or tubing required to install
- Rubber o-ring gasket

Standard Materials:

- Body Nylon
- Locknut Steel







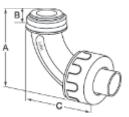


LT38NM

LT38NMBL







LT3890NM

LT3890NMBL

			Unit		Wt. Lbs.			
Cat. #	Cat. #	Trade Size	Qty.	Certification	Per 100	Α	В	С
STRAIGHT								
GRAY	BLACK							
LT38NM	LT38NMBL	3/8"	25	cULus	5	2.00"	0.54"	1.40"
LT50NM	LT50NMBL	1/2"	25	cULus	5	2.00"	0.54"	1.40"
LT75NM	LT75NMBL	3/4"	10	cULus	7	2.20"	0.64"	1.70"
LT100NM	LT100NMBL	1"	5	cULus	14	2.28"	0.74"	2.00"
LT125NM	LT125NMBL	11/4"	5	cULus	20	2.44"	0.76"	2.4"
LT150NM	LT150NMBL	11/2"	2	cULus	30	2.70"	0.80"	2.67"
LT200NM	LT200NMBL	2"	2	cULus	40	2.99"	0.85"	3.28"
90° ANGLE								
GRAY	BLACK							
LT3890NM	LT3890NMBL	3/8"	10	cULus	5	2.12"	0.54"	3.12"
LT5090NM	LT5090NMBL	1/2"	10	cULus	5	2.12"	0.54"	3.12"
LT7590NM	LT7590NMBL	3/4"	10	cULus	10	2.50"	0.52"	3.60"
LT10090NM	LT10090NMBL	1"	5	cULus	16	3.13"	0.70"	4.13"
LT12590NM	LT12590NMBL	11/4"	5	cULus	28	4.45"	0.76"	5.20"
LT15090NM	LT15090NMBL	11/2"	2	cULus	40	4.75"	0.80"	5.20"
LT20090NM	LT20090NMBL	2"	2	cULus	50	5.42"	0.86"	5.80"

Non-Metallic Liquidtight Fittings

MULTI-ANGLE CONNECTORS

Features:

- Swivel design can change from a 0 degree to a 90 degree angle
- No disassembly required
- Eliminate inventory by using the swivel design as a straight or 90 degree connector







Γ5(

Cat. #	Trade Size	Unit Qty.	Certification	Wt. Lbs. Per 100	A	В	С
LT50U90NM	1/2"	10	cULus	10	Pos 1 = 3.350" / Pos 2 = 3.025"	Pos 1 = 2.15" / Pos 2 = 2.395"	Pos 1 = .5" / Pos 2 = .5
LT75U90NM	3/4"	10	cULus	15	Pos 1 = 4.30" / Pos 2 = 3.850"	Pos 1 = 2.65" / Pos 2 = 3.350"	Pos 1 = .520" / Pos 2 = .520

SCREW ON CONNECTORS

Features:

- 1 piece design
- Design allows for excellent liquidtight seal and optimum pull strength without compression nut







LT50NMSCR

LT5090NMSCR

Cat. #	Trade Size	Unit Qty.	Certification	Wt. Lbs. Per 100	A	В	С
STRAIGHT CONNE	CTOR						
LT50NMSCR	1/2"	25	cULus	5	1.750"	0.500"	1.250"
LT75NMSCR	3/4"	25	cULus	7	1.800"	0.625"	1.500"
90° ANGLE CONNE	CTOR						
LT5090NMSCR	1/2"	10	cULus	7	1.875"	0.500"	3.125"
LT7590NMSCR	3/4"	10	cULus	9	2.375"	0.625"	3.500"

LIQUIDTIGHT WHIPS

Features:

- Available in 1/2" and 3/4" conduit size
- 4 FT and 6 FT lengths
- · Easy installation
- Assembled with all UL components
- Resists corrosion, oil and water
- ½" filled with three #10 AWG THHN copper stranded wire
- ¾," filled with one #10 AWG THHN copper stranded wire and two #8 AWG THHN copper stranded wire



LTWHP50NM4

		Unit		Wt. Lbs.	
Cat. #	Trade Size	Qty.	Certification	Per 100	
4 FOOT					
LTWHP50NM4	1/2"	24	Listed Components	138	
LTWHP75NM4	3/4"	24	Listed Components	188	
6 FOOT					
LTWHP50NM6	1/2"	24	Listed Components	196	
LTWHP75NM6	3/4"	12	Listed Components	267	

Liquidtight Conduit Fittings

Non-Metallic Liquidtight Fittings

UL TYPE B FLEXIBLE, NON-METALLIC LIQUIDTIGHT CONDUIT

Applications:

- For use with nonmetallic liquidtight fittings to terminate and seal conduit to liquidtight, oiltight, or raintight box or enclosure.
- Typical applications include wiring motors, transformers, processing equipment, pumps, etc.

Features:

- Resists abrasion, oil, water, acid and metal shavings
- Smooth inside for easier wire pulling, no hazardous sharp edges or burrs, will not damage conductors
- Corrosion resistant for tough environmental conditions
- Suitable for wet locations
- · Quick installation, cuts with utility knife or PVC cutter
- $\bullet~90^{\circ}$ has smooth interior to prevent abrasion of conductors
- Rated for 80°C dry, 60°C wet, 70°C oil-resistant



LTCOND38NM100 - GRAY

LTCOND38NMBL100 - BLACK

Standard Materials:

• Integral rigid and flexible PVC construction

Cat. #	Cat. #	Trade Size	Certification	Wt. Lbs. Per 100 Ft.	Coil / Reel Size	O.D. Min - Max	I.D. Min - Max
		0120	Oei tillcation	1 61 100 1 1.	Heel Olze	O.D. WIIII - WIAX	I.D. WIIII - WIGA
Type B 80°C Dry 60°C	Type B 105°C Dry 60°C						
Wet 70°C - GRAY	Wet 70°C - BLACK						
LTCOND38NM100	LTCOND38NMBL100	3/8"	UL and CSA	13	100 FT	.690710"	.484504"
LTCOND50NM100	LTCOND50NMBL100	1/2"	UL and CSA	15	100 FT	.820840"	.622642"
LTCOND75NM100	LTCOND75NMBL100	3/4"	UL and CSA	20	100 FT	1.030 - 1.050"	.820840"
LTCOND100NM100	LTCOND100NMBL100	1"	UL and CSA	27	100 FT	1.290 - 1.315"	1.041 - 1.066"
LTCOND125NM100	LTCOND125NMBL100	11/4"	UL and CSA	35	100 FT	1.630 - 1.660"	1.380 - 1.410"
LTCOND150NM50	LTCOND150NMBL50	11/2"	UL and CSA	46	50 FT	1.865 - 1.900"	1.575 - 1.600"
LTCOND200NM50	LTCOND200NMBL50	2"	UL and CSA	66	50 FT	2.340 - 2.375"	2.020 - 2.045"
LTCOND38NM1200		3/8"	UL and CSA	14	1200 FT	.690710"	.484504"
LTCOND50NM1000		1/2"	UL and CSA	17	1000 FT	.820840"	.622642"
LTCOND75NM800		3/4"	UL and CSA	22	800 FT	1.030 - 1.050"	.820840"
LTCOND100NM500		1"	UL and CSA	30	500 FT	1.290 - 1.315"	1.041 - 1.066"

NON-METALLIC LIQUIDTIGHT ELECTRICAL TUBING

Features:

- Quick installation. Cuts with utility knife or PVC cutter
- Suitable for use in high vibration or flexing applications
- · Resists corrosion, oil and water
- Maximum flexibility. Can be used in extremely tight areas
- · Resists abuse, pulling and crushing



ET25NM100

			Wt. Lbs.	Coil /		
Cat. #	Trade Size	Certification	Per 100 Ft.	Reel Size	O.D. Min - Max	I.D. Min - Max
Non-Metallic Ele	ectrical Tubing					
ET25NM100	1/4"	UL	8	100 FT	.560575"	.385405"
ET38NM100	3/8"	UL and CSA	9	100 FT	.690710"	.484504"
ET50NM100	1/2"	UL and CSA	10	100 FT	.820840"	.622642"
ET75NM100	3/4"	UL and CSA	14	100 FT	1.030 - 1.050"	.820840"
ET100NM100	1"	UL and CSA	19	100 FT	1.290 - 1.315"	1.041 - 1.066"
ET125NM100	11/4"	UL and CSA	22	100 FT	1.630 - 1.660"	1.380 - 1.410"
ET150NM50	11/2"	UL and CSA	28	50 FT	1.865 - 1.900"	1.575 - 1.600"
ET200NM50	2"	UL and CSA	42	50 FT	2.340 - 2.375"	2.020 - 2.045"

Cord And Cable Connectors CG Series Color-Coded Cord Grips

Applications:

CG Series color-coded grips with neoprene bushings are for use with portable cords, including S, SO, STO, ST, SJ, SJT, SJTO, and SVO. CG cord grips are installed to:

- · Provide a means for passing a cord into an enclosure
- Form a watertight seal for cord
- Provide pullout protection for cord, ensuring a secure connection

Features:

- Neoprene bushings are color coded by cable diameter for quick and easy identification of proper cord grip.
- Rugged construction protects cord from damage.
- Compact design permits close spacing of fittings on panel applications.
- · Tightening one nut creates watertight seal.
- Male tapered thread NPT.
- Straight cord grips available in steel or aluminum, 45° and 90° cord grips available in malleable iron.

Certifications and Compliances:

- UL Standard: 514B
- UL File No. E-23223
- CSA Standard: C22.2 No. 18
- Suitable for NEMA 4 enclosures and other wet locations
- Suitable for use in Class I, Div. 2 hazardous locations when installed in accordance with NEC 501.10(B)(2).

Standard Materials:

- Body Straight: 1/2" through 11/2" steel, or 1/2" through 1" aluminum
- Body 45° $\frac{1}{2}$ " through 1" malleable iron
- Body 90° $\frac{1}{2}$ " through 1" malleable iron
- Nut steel or aluminum
- Bushing neoprene

Standard Finishes:

- Body (steel or malleable Iron) electrogalvanized
- Body (aluminum) natural
- Nut (steel) electrogalvanized
- Nut (aluminum) natural

Straight Connector

Stool	Alum	Trodo		Cable	Cable	Heit	Wt. Lbs.*
Steel Cat. #	Alum. Cat. #	Trade Size	Color			Unit	Per 100
Cat. #	Cat. #		Color	Range Min.	Range Max.	Qty.	Per 100
CG50 250	CG50 250SA	1/2"	Red	0.15	0.25	25	10
CG50 350	CG50 350SA	1/2"	White	0.25	0.35	25	10
CG50 450	CG50 450SA	1/2"	Blue	0.35	0.45	25	10
CG50 560	CG50 560SA	1/2"	Green	0.45	0.56	25	10
CG50 650	CG50 650SA	1/2"	Brown	0.55	0.65	25	10
CG75 250	CG75 250SA	3/4"	Red	0.15	0.25	10	14
CG75 350	CG75 350SA	3/4"	White	0.25	0.35	10	14
CG75 450	CG75 450SA	3/4"	Blue	0.35	0.45	10	14
CG75 560	CG75 560SA	3/4"	Green	0.45	0.56	10	14
CG75 650	CG75 650SA	3/4"	Brown	0.55	0.65	10	14
CG75 750	CG75 750SA	3/4"	Yellow	0.65	0.75	10	14
CG75 850	CG75 850SA	3/4"	Purple	0.75	0.85	10	14
CG100 560	CG100 560SA	1"	Green	0.45	0.56	5	20
CG100 650	CG100 650SA	1"	Brown	0.55	0.65	5	20
CG100 750	CG100 750SA	1"	Yellow	0.65	0.75	5	20
CG100 850	CG100 850SA	1"	Purple	0.75	0.85	5	20
CG100 950	CG100 950SA	1"	Gray	0.85	0.95	5	20
CG100 1050	CG100 1050SA	1"	Black	0.95	1.05	5	20
CG125 850		11/4"	Purple	0.75	0.85	5	40
CG125 950		11/4"	Gray	0.85	0.95	5	40
CG125 1050		11/4"	Black	0.95	1.05	5	40
CG125 1150		11/4"	Orange	1.05	1.15	5	40
CG125 1250		1 1/4"	Red	1.15	1.25	5	40
CG125 1375		11/4"	White	1.25	1.375	5	40
CG150 1050		11/2"	Black	0.95	1.05	2	70
CG150 1150		1 1/2"	Orange	1.05	1.15	2	70
CG150 1250		11/2"	Red	1.15	1.25	2	70
CG150 1375		11/2"	White	1.25	1.375	2	70



*Wt. Lbs. Per 100 is for steel connectors only

Cord And Cable Connectors CG Series Color-Coded Cord Grips

45° Connector						
Steel Cat. #	Trade Size	Color	Cable Range Min.	Cable Range Max.	Unit Qty.	Wt. Lbs. Per 100
CG5045 250	1/2"	Red	0.15	0.25	10	24
CG5045 350	1/2"	White	0.25	0.35	10	24
CG5045 450	1/2"	Blue	0.35	0.45	10	24
CG5045 560	1/2"	Green	0.45	0.56	10	24
CG5045 650	1/2"	Brown	0.55	0.65	10	24
CG7545 250	3/4"	Red	0.15	0.25	10	36
CG7545 350	3/4"	White	0.25	0.35	10	36
CG7545 450	3/4"	Blue	0.35	0.45	10	36
CG7545 560	3/4"	Green	0.45	0.56	10	36
CG7545 650	3/4"	Brown	0.55	0.65	10	36
CG7545 750	3/4"	Yellow	0.65	0.75	10	36
CG7545 850	3/4"	Purple	0.75	0.85	10	36
CG10045 560	1"	Green	0.45	0.56	5	68
CG10045 650	1"	Brown	0.55	0.65	5	68
CG10045 750	1"	Yellow	0.65	0.75	5	68
CG10045 850	1"	Purple	0.75	0.85	5	68
CG10045 950	1"	Gray	0.85	0.95	5	68
CG10045 1050	1"	Black	0.95	1.05	5	68



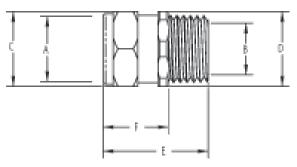
90° Connector

Steel Cat. #	Trade Size	Color	Cable Range Min.	Cable Range Max.	Unit Qty.	Wt. Lbs. Per 100
CG5090 250	1/2"	Red	0.15	0.25	10	26
CG5090 350	1/2"	White	0.25	0.35	10	26
CG5090 450	1/2"	Blue	0.35	0.45	10	26
CG5090 560	1/2"	Green	0.45	0.56	10	26
CG5090 650	1/2"	Brown	0.55	0.65	10	26
CG7590 250	3/4"	Red	0.15	0.25	10	48
CG7590 350	3/4"	White	0.25	0.35	10	48
CG7590 450	3/4"	Blue	0.35	0.45	10	48
CG7590 560	3/4"	Green	0.45	0.56	10	48
CG7590 650	3/4"	Brown	0.55	0.65	10	48
CG7590 750	3/4"	Yellow	0.65	0.75	10	48
CG7590 850	3/4"	Purple	0.75	0.85	10	48
CG10090 560	1"	Green	0.45	0.56	5	68
CG10090 650	1"	Brown	0.55	0.65	5	68
CG10090 750	1"	Yellow	0.65	0.75	5	68
CG10090 850	1"	Purple	0.75	0.85	5	68
CG10090 950	1"	Gray	0.85	0.95	5	68
CG10090 1050	1"	Black	0.95	1.05	5	68



Cord And Cable Connectors CG Series Color-Coded Cord Grips

Cord Grips Dimensional Information



		Α		В	С	D	E	F
		CABLE R	ANGES	MAX.	CROSS	HEX	OVERALL	EXPOSED
Cat. #	Size	MIN.	MAX.	CABLE	CORNER	BODY	LENGTH	LENGTH
CG50 250SA	1/2	0.150	0.250	0.640	1.070	0.975	1 ⁵ / ₁₆	13/16
CG50 350SA	1/2	0.250	0.350	0.640	1.070	0.975	1 5/ ₁₆	13/16
CG50 450SA	1/2	0.350	0.450	0.640	1.070	0.975	1 ⁵ / ₁₆	13/16
CG50 560SA	1/2	0.450	0.560	0.640	1.070	0.975	1 ⁵ / ₁₆	13/16
CG50 650SA	1/2	0.560	0.650	0.640	1.070	0.975	1 5/ ₁₆	13/16
CG75 250SA	3/4	0.150	0.250	0.687	1.070	1.220	1 ⁵ / ₁₆	¹³ / ₁₆
CG75 350SA	3/4	0.250	0.350	0.687	1.070	1.220	1 5/ ₁₆	13/16
CG75 450SA	3/4	0.350	0.450	0.687	1.070	1.220	1 5/ ₁₆	13/16
CG75 560SA	3/4	0.450	0.560	0.687	1.070	1.220	1 ⁵ / ₁₆	¹³ / ₁₆
CG75 650SA	3/4	0.560	0.650	0.687	1.070	1.220	1 5/ ₁₆	13/16
CG75 750SA	3/4	0.650	0.750	0.845	1.330	1.220	19/16	1 1/32
CG75 850SA	3/4	0.750	0.850	0.845	1.330	1.220	19/16	11/32
CG100 560SA	1	0.450	0.560	0.937	1.330	1.500	13/4	1 1/8
CG100 650SA	1	0.560	0.650	0.937	1.330	1.500	13/4	1 1/8
CG100 750SA	1	0.650	0.750	0.937	1.330	1.500	13/4	11/8
CG100 850SA	1	0.750	0.850	0.937	1.330	1.500	13/4	1 1/8
CG100 950SA	1	0.850	0.950	1.050	1.625	1.500	1 ⁷ / ₈	1 3/ ₁₆
CG100 1050SA	1	0.950	1.050	1.050	1.625	1.500	17/8	13/16

Cord And Cable Connectors

NCG Non-Metallic Cord Grips

NCG SERIES NONMETALLIC CORD GRIPS

Applications:

For use with portable cord, NCG Series watertight cord grips terminate and protect conductors from mechanical damage due to vibration and movement. A neoprene bushing seals out oils, coolants, water, dust and other abusive agents. NCG cord grips may be used with types S, SO, STO, SJ, SJT, SJTO and SVO portable cords.

Typical applications include the termination of wiring for:

- Machine tools
- Motors
- Transformers
- Food processing equipment
- Robotics
- · Air conditioning units
- · Illuminated signs
- Terminal boxes
- Control cabinets

Features:

- Available in 3/8" to 1" trade sizes.
- Neoprene bushings cover a large cable range, reducing the number of different fittings required.
- Polyamide nonmetallic construction stands up to most corrosive environments.
- Polyamide locknut available, order separately.
- UL listed and cUL third party certified.
- Rain-tight and watertight construction for outdoor use.
- Tightening one nut creates watertight seal.

Certifications and Compliances:

- UL Standard 514B
- cUL to CSA Standard C22.2 No.18
- IP 68
- NEMA 4X Watertight
- Zone 2, Division 2 use per Code

Standard Materials:

- Cable gland body and nut polyamide 6
- Bushing neoprene
- Locknut polyamide 6

Cat. #	Trade Size	Cable Range Inches (MM)
NCG38 35	3/8"	0.1-0.35 (2.5-8)
NCG50 50	1/2"	0.20-0.50 (5-12)
NCG75 75	3/4"	0.35-0.75 (9-18)
NCG100 100	1"	0.55–1.00 (14–25)



Locknuts - must be ordered separately

Cat. #	Trade Size	Std. Pkg.	
10N	3/8"	25	
11N	1/2"	25	
12N	3/4"	25	
13N	1"	20	



NCGS Non-Metallic Solar Cord Grips

Applications:

Eaton's Crouse-Hinds Solar Cord Grips are used in both commercial and residential grid-tied PV solar applications and are designed to accommodate the entry of multiple PV wires coming into a combiner or pass through box. The Solar Cord Grips provide mechanical strain relief as well as a liquidtight seal around the solar panel wires.

ြ Features:

- Multi-hole cord grip to allow for entry of multiple PV wires.
- Solar cord grips offer customer flexibility by allowing the termination from 1 to 31 PV wires in a single connector.
- Skinned over glands provide a durable, liquid tight seal around the
- No disassembly required for installation.
- 5MM offering accommodates USE-2, 12AWG and 10AWG wire.
- 7MM offering accommodates 1000V PV cable, 12AWG and 10AWG wire.
- Temperature rating: -22°F (-30°C) to 212°F (100°C) to meet the most demanding environmental conditions.



- UL/cUL listed
- IP68
- Flammability rating: 94-V2

Standard Materials:

• % nylon with TPE/Buna N sealing glands



Photo shown with steel locknut (locknuts must be ordered separately)



Ordering Information:

Cat. #	Trade Size	No. of Holes	Hole Cable Diam.	Wire Type	Size
NCGS25*	3/4"	5 Holes	5MM	USE-2	12AWG, 10AWG
NCGS237	3/4"	3 Holes	7MM	1000V PV Cable	12AWG, 10AWG
NCGS39*	1"	9 Holes	5MM	USE-2	12AWG, 10AWG
NCGS357	1"	5 Holes	7MM	1000V PV Cable	12AWG, 10AWG
NCGS413*	11/4"	13 Holes	5MM	USE-2	12AWG, 10AWG
NCGS497	11/4"	9 Holes	7MM	1000V PV Cable	12AWG, 10AWG
NCGS631*	2"	31 Holes	5MM	USE-2	12AWG, 10AWG
NCGS6197	2"	19 Holes	7MM	1000V PV Cable	12AWG, 10AWG

^{*}UL recognized, but not listed. Consult factory for additional information.

Locknut Ordering Information:

Material	Cat. #	Trade Size	
	12	3/4"	
0: 1	13	1"	
Steel	14	11/4"	
	16	2"	
	12 SA	3/4"	
	13 SA	1"	
Aluminum	14 SA	11/4"	
	16 SA	2"	
Niero worde III e	12N	3/4"	
Non-metallic	13N	1"	
	12DC	3/4"	
Zinc	13DC	1"	
ZITIC	14DC	11/4"	
	16DC	2"	

AC/MC Fittings

ACB Series

ACB SERIES - STEEL & MALLEABLE IRON

Applications:

 ACB Series Connectors are used to connect armored cable, metal clad cable or flexible metallic conduit to a box or enclosure.

Features and Benefits:

- Dual gripping saddle design on the connector safely secures cable or conduit in place and prevents loosening from vibration.
 Insulated throat provides a smooth pulling surface that won't strip
- cable.

 Angled teeth on locknut bite into enclosure, preventing loosening
- Angled teeth on lockful bite into enclosure, preventing loosening from vibration.
- Tri-head set screw may be installed using a slotted, Phillips or Robertson head Screwdriver.
- Steel connector is zinc electroplated for corrosion resistance. Listed for use with:
- Flexible Metal Conduit (RWFMC): 3/8" 4"
- Armored cable (AC): 3/8" 11/4"
- MC cable (MC): 3/8" 3"
- MCI-A cable (MCI-A): 3/8" 11/4"

Certifications and Compliances:

- UL Listed
- cUL Listed
- UL File No. E-19188

Materials and Finishes:

- Body Straight: Steel Zinc electroplated
- Body 45° and 90°: Malleable Zinc electroplated
- Saddle Steel Zinc electroplated
- Screw Steel Zinc electroplated
- Insulated throat Thermoplastic Natural







Straight Connectors





		Openii	ng		Dimensions			
Cat. #	Trade Size	Max.	Min.	Unit Qty.	Α	В	С	
ACB38	3/8"	0.660	0.400	50	13/16"	11/4"	1/2"	
ACB50	1/2"	0.920	0.520	25	13/8"	11/4"	7/ ₁₆ "	
ACB75	3/4"	1.110	0.680	10	13/8"	17/16"	7/ ₁₆ "	
ACB100	1"	1.380	0.880	5	19/16"	1 13/16"	1/2"	
ACB125	1 1/4"	1.635	1.150	5	23/16"	21/8"	5/8"	
ACB150	11/2"	1.950	1.490	5	27/16"	21/2"	5/8"	
ACB200	2"	2.450	1.765	1	29/16"	3"	5/8"	
ACB250	21/2"	3.060	2.270	1	211/16"	35/8"	13/16"	
ACB300	3"	3.560	3.160	1	213/16"	41/4"	15/16"	
ACB350	31/2"	4.060	3.860	1	215/16"	33/4"	1"	
ACB400	4"	4.560	4.360	1	3"	53/16"	1 1/16"	

45° Connectors



	Trade	Openii	ng	Unit	Dime	nsions	
Cat. #	Size	Max.	Min.	Qty.	Α	В	С
ACB3845	3/8"	0.660	0.400	50	1 13/16"	1 13/16"	15/16"
ACB5045	1/2"	0.920	0.520	25	21/8"	21/8"	11/4"
ACB7545	3/4"	1.110	0.680	10	23/8"	23/8"	17/16"

90° Connectors





		Openii	ng		Dimensions			
Cat. #	Trade Size	Max.	Min.	Unit Qty.	Α	В	С	
ACB3890	3/8"	0.660	0.400	50	13/4"	21/16"	1"	
ACB5090	1/2"	0.920	0.520	25	21/8"	21/4"	11/4"	
ACB7590	3/4"	1.110	0.68	10	21/2"	21/2"	13/8"	
ACB10090	1"	1.380	0.880	5	213/16"	27/8"	111/16"	

SPACE SAVER ACB SERIES - STEEL

Features:

- Male threads on locknut allow for more room inside the box
- Smooth pulling surface eliminates the need for insulated throat fittings and/or conduit
- Angled teeth on locknut bite into enclosure, preventing loosening from vibration
- Dual gripping saddle design on the fitting safely secures cable or conduit in place and prevents loosening from vibration
- · Tri-head set screw may be installed using a slotted, Philips, or Robertson head screwdriver
- Steel fitting is zinc electroplated for corrosion
- Suitable for use with steel or aluminum

Certifications and Compliances:

- UL Listed
- cUL Listed

UL File No. E-22132





			Cable Opening					en- s
Cat. #	Trade Size	KO Size	Max.	Min.		Wt. Lbs. Per 100	Α	В
SSACB38* SSACB50* SSACB75 SSACB100	1/2" 3/4"	1/2" 1/2" 3/4" 1"	0.930 1.125	0.280 0.635 0.810 0.775	25 20	9 12 14 30	13/8" 13/8" 11/2" 2"	1 1/16" 1 1/4"

^{*}UL approved for use with aluminum interlocking grounding metal clad cable. Type MCIA (Southwire MCAP™)
MCAP™ is a registered trademark of Southwire Company.

QUICK-LOK™ CONNECTORS - STEEL

Features:

- No Locknut required
- · Single-unit or duplex construction with captive clamp
- Connects 50 MC, AC, and Flex RW cable sizes with just three fittings
- Easy to install: tilt, insert and snap down
- Single unit construction eliminates loose component parts, integral green plastic insulated throat bushing provides maximum protection for wire installation

Standard Materials:

Tubular Steel

Standard Finishes:

Zinc plated

UL File No. E-19188







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
QLK50S*	½" single	50 For 14 / 4 to 10 / 3 For 3/8" FMC	8
QLK50D*	½" duplex	25 For 14 / 4 to 10 / 3	10
QLK75*	3/4"	25 For 10 / 3 to 6 / 3 For ³ / ₄ " and ¹ / ₄ " FMC	14

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAPTM) MCAPTM is a registered trademark of Southwire Company.

AC/MC Fittings

Set Screw & Duplex Type - Malleable Iron

QUICK-LOK™ PRO CONNECTORS – ZINC DIE CAST

Applications:

- Quick-Lok Pro[™] Connectors are used to connect armored cable, metal clad cable or flexible metallic conduit to a box or enclosure for dry location applications
- Fits 1/2" knockout

Connectors:

- Single Connector For installation of one cable into a box or enclosure
- Duplex Connector Allows for installation of two cables in a single KO, into box or enclosure
- 90° Connector For installation of 90° bend in cable
- Old Work Connector For installing and terminating cable after an old work box has been installed

Features:

- Easy tool-free installation (the single and old work connector can also be removed without tools)
- Integral insulated throat bushing provides protection for wire insulation
- Reusable
- Wide range of styles and configurations to meet customer requirements and preferences
- Single unit construction eliminates loose component parts
- Duplex and 90° connector cover opens wide for easy access and wiring
- Dry location only









Standard Materials:

- Body Zinc Die Cast
- Cover Zinc-plated Steel
- Insulator Non-metallic

Certifications and Compliances:

- cULus Listed
- UL File No. E-19188

Cat. #	Description	Cable Size: AL and Steel AC	Cable Size: AL and Steel MC/MCI-A/HCF	Cable Size: AL and Steel RWFMC	Cable Diameter Range	Outlet Box KO Size	Unit Qty.	Wt. Lbs. Per 100
38MCQ	³/s" Quick-Lok Connector	14/2 to 10/3	14/2 to 10/3	3/8"	0.395" - 0.638"	1/2"	50	6
38MCQD	3/8" Duplex Quick-Lok Connector	14/2 to 10/3	14/2 to 10/3	3/8"	0.460" - 0.610"	1/2"	25	6
38MCQ90	3/8" 90° Quick-Lok Connector	14/2 to 10/3	14/2 to 10/4	3/8"	0.469" - 0.610"	1/2"	25	6
50MCQ90	¹ / ₂ " 90° Quick-Lok Connector	8/2 to 8/3	8/2 to 8/3	1/2"	0.670" - 0.785"	1/2"	25	6
38MCQOW	3/8" Old Work Quick- Lok Connector	14/2 to 10/3	14/2 to 10/3	-	0.395" - 0.638"	1/2"	50	6

SET SCREW TYPE - MALLEABLE IRON

UL File No. E-19188







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100		
702V	3/8"	5/8"	⁷ / ₁₆ "	100	7		
		For 2 conductor No.'s 14, 12					
		3 conductor No.'s 14, 12					

4 conductor No. 14, 5/16" flex

UL File No. E-19188



DUPLEX TYPE - MALLEABLE IRON



Agrical Control	97	Diam. of	Diam. of			
Cat. #	Trade Size	Opening for Cable	Bushed Hole	Unit Qty.	Wt. Lbs. Per 100	
Straight 699*	3/8"	5/8"	9/16"	25	20	
90 Degre 700*	ee ³/8"	5/8"	9/16"	25	14	

*UL Listed as grounding means.

SET SCREW TYPE - ZINC DIE CAST

UL File No. E-19188









BX 38

BX 38R

Cable Opening

Cat. #	Trade Size	Desc.	Max.	Min.	Unit Qty.	Wt. Lbs. Per 100
BX38	3/8"	Oval	.469	.610	50	5
BX38R	3/8"	Round	.460	.600	50	5

SET SCREW TYPE - ZINC DIE CAST

UL File No. E-19188, E-19189









ACMF

ACB38DC **Cable Opening**

Cat. #	Trade Size	Min.	Max.	Unit Qty.	Wt. Lbs. Per 100	
ACMF38	3/8"	.469	.610	100	25	
ACD20DC	3/ 11	160	610	50	25	

DUPLEX TYPE† - ZINC DIE CAST

UL File No. E-19188







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100
2699*	3/8"	5/8"	9/16"	25	13

[†]UL Listed as grounding means.

CLAMP TYPE 45° ANGLE -MALLEABLE IRON

Features:

• Male hub treads - NPSM

Standard Materials:

- Mallable Iron
- Steel locknut
- Stamped steel covers

Standard Finishes:

Zinc Plated

Clamp Type 45° Angle - Non-Insulated

UL File No. E-19188 or E-19189







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100
723	3/8"	3 conductor N 4 conductor N	17/ ₃₂ " for No.'s 14, 12 lo.'s 14, 12, 10 lo.'s 14, 12 lic conduit ⁵ / ₁₆ "		14
735	1/2"	For 2 conduct		25	18
737	3/4"	11/8" For 2 conduct 3 conductor N Flexible metal	lo.'s 6, 4	25	24

Clamp Type 45° Angle - Insulated

UL File No. E-19188 or E-19189







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100
1723	3/8"	21/32"	17/32"	50	14
1735	1/2"	15/16"	9/16"	25	17
1737	3/4"	1 1/8"	25/32"	25	24

[&]quot;UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

AC/MC Fittings

Combination Couplings - Steel Clamps & Bushings

ACC SERIES COMBINATION COUPLINGS - STEEL

Applications:

 ACC combination couplings are used to join EMT conduit to armored cable, metal clad cable or flexible metallic conduit.

Features and Benefits:

- Dual gripping saddle design on the coupling safely secures cable or conduit in place and prevents loosening from vibration
- Steel compression ring & nut provide a strong, secure termination point for EMT conduit.
- Tri-head set screw may be installed using a slotted, Phillips or Robertson head screwdriver.
- Steel combination coupling is zinc electroplated for corrosion resistance.

Certifications and Compliances:

- UL Listed
- cUL Listed

Materials and Finishes:

- Body: Steel Zinc electroplated
- Saddle: Steel Zinc electroplated
- Screw: Steel Zinc electroplated

Compression Coupling:

AC/MC, FMC to EMT



		Cable O			
Cat. #	Trade Size	Max.	Min.	Unit Qty.	
ACC38	3/8"	0.660	0.400	25	
ACC50	1/2"	0.920	0.520	10	
ACC75	3/4"	1.100	0.680	10	

Set-Screw Coupling:



Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
ACCSS38*	3/8"	25	9	
ACCSS50	1/2"	10	12	
ACCSS75	3/4"	10	14	
*not III Listed				

CLAMPS "SNAP-ON" - STEEL

Light Gauge



Cat. #	Conduit Sizes Rigid	Size of Strap Inside	Unit Qty.	Wt. Lbs. Per 100	
566	1/4"	.540	500	2	
567BX	3/8"	.675	100	14	

ANTI-SHORT BUSHINGS







Cat. #	FMC Trade Size	Armored Cable Size	Unit Qty.
ASB 0	5/16"	14 - 2, 14 - 3, 12 - 2	100
ASB 1	3/8"	14 – 4, 12 – 3, 6 – 1, 4 – 1	100
ASB 2	⁷ / ₁₆ "	12 - 4, 10 - 2, 10 - 3, 2 - 1	50
ASB 3	1/2"	10 – 4, 8 – 2, 8 – 3, 1 – 1	50
ASB 4	3/4"	8 - 4, 6 - 4, 6 - 3, 6 - 2, 4 - 3, 4 - 2	50
ASB 5	1"	3 - 1, 2 - 1, 2 - 1 / 0, 1 - 300 MCM 1 - 350 MCM, 1 - 400 MCM, 1 - 450 MCM, 1 - 500 MCM	25
ASB 6	11/4"	4-1, 4-1/0, 4-2/0, 3-1/0, 3-2/0, 3-3/0, 2-2/0, 2-3/0 2-4/0, 1-600 MCM, 1-650 MCM, 1-700 MCM, 1-750 MCM, 1-800 MCM, 1-900 MCM	10
ASB 7	11/2"	4-3/0, 4-4/0, 3-4/0, 3-250 MCM, 3-300 MCM, 2-250 MCM, 2-300 MCM, 2-350 MCM, 1-1000 MCM	10
ASB 8	2" to 2½"	4 – 250 MCM, 4 – 300 MCM, 4 – 350 MCM, 4 – 400 MCM, 4 – 450 MCM, 4 – 500 MCM, 3 – 350 MCM, 3 – 400 MCM, 3 – 450 MCM, 3 – 500 MCM, 2 – 400 MCM, 2 – 450 MCM, 2 – 500 MCM	10

Bushings are packed in clear poly bags.

Anti-short bushings have a temperature rating of 90°C

ACB SERIES - STEEL & MALLEABLE IRON

Applications:

 ACB Series Connectors are used to connect armored cable, metal clad cable or flexible metallic conduit to a box or enclosure.

Features and Benefits:

- Dual gripping saddle design on the connector safely secures cable or conduit in place and prevents loosening from vibration.
- Insulated throat provides a smooth pulling surface that won't strip cable.
- Angled teeth on locknut bite into enclosure, preventing loosening from vibration.
- Tri-head set screw may be installed using a slotted, Phillips or Robertson head Screwdriver.
- Steel connector is zinc electroplated for corrosion resistance. Listed for use with:
- Flexible Metal Conduit (RWFMC): 3/8" 4"
- Armored cable (AC): 3/8" 11/4"
- MC cable (MC): 3/8" 3"
- MCI-A cable (MCI-A): 3/8" 11/4"

Certifications and Compliances:

- UL Listed
- cUL Listed
- UL File No. E-19188

Materials and Finishes:

- Body Straight: Steel Zinc electroplated
- $\bullet~$ Body 45° and $90^{\circ}:$ Malleable Zinc electroplated
- Saddle Steel Zinc electroplated
- Screw Steel Zinc electroplated
- Insulated throat Thermoplastic Natural







Straight Connectors





Opening Trade			ng	Unit	Dime		
Cat. #	Size	Max.	Min.	Qty.	Α	В	С
ACB38	3/8"	0.660	0.400	50	13/16"	11/4"	1/2"
ACB50	1/2"	0.920	0.520	25	13/8"	11/4"	7/ ₁₆ "
ACB75	3/4"	1.110	0.680	10	13/8"	17/16"	7/ ₁₆ "
ACB100	1"	1.380	0.880	5	19/16"	1 13/16"	1/2"
ACB125	11/4"	1.635	1.150	5	23/16"	21/8"	5/8"
ACB150	11/2"	1.950	1.490	5	27/16"	21/2"	5/8"
ACB200	2"	2.450	1.765	1	29/16"	3"	5/8"
ACB250	21/2"	3.060	2.270	1	211/16"	35/8"	13/16"
ACB300	3"	3.560	3.160	1	213/16"	41/4"	15/16"
ACB350	31/2"	4.060	3.860	1	215/16"	33/4"	1"
ACB400	4"	4.560	4.360	1	3"	53/16"	11/16"

45° Connectors



	Tuesla	Openi	ng	I I i A	Dime	nsions	
Cat. #	Trade Size	Max.	Min.	Unit Qty.	Α	В	С
ACB3845	3/8"	0.660	0.400	50	1 13/16"	1 13/16"	15/16"
ACB5045	1/2"	0.920	0.520	25	21/8"	21/8"	11/4"
ACB7545	3/4"	1.110	0.680	10	23/8"	23/8"	17/16"

90° Connectors





		Cable Openii	ng		Dime	nsions	
Cat. #	Trade Size	Max.	Min.	Unit Qty.	Α	В	С
ACB3890	3/8"	0.660	0.400	50	13/4"	21/16"	1"
ACB5090	1/2"	0.920	0.520	25	21/8"	21/4"	11/4"
ACB7590	3/4"	1.110	0.680	10	21/2"	21/2"	13/8"
ACB10090	1"	1.380	0.880	5	213/16"	27/8"	1 11/16"

Flexible Metallic Conduit Fittings

Space Saver ACB Series Quick-Lok™ Connectors

SPACE SAVER ACB SERIES - STEEL

Features:

- Male threads on locknut allow for more room inside the box
- Smooth pulling surface eliminates the need for insulated throat fittings and/or conduit
- · Angled teeth on locknut bite into enclosure, preventing loosening from vibration
- Dual gripping saddle design on the fitting safely secures cable or conduit in place and prevents loosening from vibration
- · Tri-head set screw may be installed using a slotted, Philips, or Robertson head screwdriver
- Steel fitting is zinc electroplated for corrosion resistance
- Suitable for use with steel or aluminum

Certifications and Compliances:

- UL Listed
- cUL Listed

UL File No. E-22132





			Cable Opening					en- s
Cat. #	Trade Size	KO Size	Max.	Min.	Unit Qty.	Wt. Lbs. Per 100	Α	В
SSACB38* SSACB50* SSACB75 SSACB100	1/2" 3/4"	1/2" 1/2" 3/4" 1"	0.930 1.125	0.280 0.635 0.810 0.775	25 10	9 12 14 30	13/8" 13/8" 11/2" 2"	11/16"

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA

(Southwire MCAP™)
MCAP™ is a registered trademark of Southwire Company.

QUICK-LOK™ CONNECTORS - STEEL

Features:

- No Locknut required
- · Single-unit or duplex construction with captive clamp
- Connects 50 MC, AC, and Flex RW cable sizes with just three fittings
- Easy to install: tilt, insert and snap down
- Single unit construction eliminates loose component parts, integral green plastic insulated throat bushing provides maximum protection for wire installation

Standard Materials:

Tubular Steel

Standard Finishes:

Zinc plated

UL File No. E-19188









Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
QLK50S*	½" single	50 For 14 /4 to 10 /3 For 3/8" FMC	8
QLK50D*	½" duplex	25 For 14 / 4 to 10 / 3	10
QLK75*	3/4"	25 For 10 / 3 to 6 / 3 For 3/8" and 1/2" FMC	14

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™)
MCAP™ is a registered trademark of Southwire Company.

Quick-Lok™ Pro Connectors - Zinc Die Cast

QUICK-LOK™ PRO CONNECTORS – ZINC DIE CAST

Applications:

- Quick-Lok ProTM Connectors are used to connect armored cable, metal clad cable or flexible metallic conduit to a box or enclosure for dry location applications
- Fits 1/2" knockout

Connectors:

- Single Connector For installation of one cable into a box or enclosure
- Duplex Connector Allows for installation of two cables in a single KO, into box or enclosure
- 90° Connector For installation of 90° bend in cable
- Old Work Connector For installing and terminating cable after an old work box has been installed

Bon









Features:

- Easy tool-free installation (the single and old work connector can also be removed without tools)
- Integral insulated throat bushing provides protection for wire insulation
- Reusable
- Wide range of styles and configurations to meet customer requirements and preferences
- Single unit construction eliminates loose component parts
- Duplex and 90° connector cover opens wide for easy access and wiring
- · Dry location only

Standard Materials:

- Body Zinc Die Cast
- Cover Zinc-plated Steel
- Insulator Non-metallic

Certifications and Compliances:

- cULus Listed
- UL File No. E-19188

Cat. #	Description	Cable Size: AL and Steel AC	Cable Size: AL and Steel MC/MCI-A/HCF	Cable Size: AL and Steel RWFMC	Cable Diameter Range	Outlet Box KO Size	Unit Qty.	Wt. Lbs. Per 100
38MCQ	3/8" Quick-Lok Connector	14/2 to 10/3	14/2 to 10/3	3/8"	0.395" - 0.638"	1/2"	50	6
38MCQD	3/8" Duplex Quick- Lok Connector	14/2 to 10/3	14/2 to 10/3	3/8"	0.460" - 0.610"	1/2"	25	6
38MCQ90	3/8" 90° Quick-Lok Connector	14/2 to 10/3	14/2 to 10/4	3/8"	0.469" - 0.610"	1/2"	25	6
50MCQ90	1/2" 90° Quick-Lok Connector	8/2 to 8/3	8/2 to 8/3	1/2"	0.670" - 0.785"	1/2"	25	6
38MCQOW	3/8" Old Work Quick- Lok Connector	14/2 to 10/3	14/2 to 10/3	-	0.395" - 0.638"	1/2"	50	6

Flexible Metallic Conduit Fittings

Squeeze Type

SQUEEZE TYPE - MALLEABLE IRON Standard Materials:

- Malleable Iron
- Steel Locknut

Standard Finishes:

Zinc plated

Squeeze Type* - Non-Insulated

UL File No. E-19189







Cat. #	Trade Size	Diam. of Opening. for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100
707†§	3/8"	5/8"	3/8"	100	7
708‡§	1/2"	15/16"	5/8"	50	14
709	3/4"	11/8"	3/4"	20	22
710	1"	13/8"	1"	20	31
711	11/4"	1 ²¹ / ₃₂ "	1 5/ ₁₆ "	10	46
712	11/2"	17/8"	11/2"	5	79
713	2"	21/2"	2"	2	101
714	21/2"	27/8"	23/8"	2	161
715	3"	39/16"	3"	1	220
721	31/2"	4"	213/32"	1	470
722	4"	419/32"	331/32"	1	610

*UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b). †Suitable for use with armored cable. ‡Suitable for use with metal clad cable.

§ UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™)
MCAP™ is a registered trademark of Southwire Company.

Straight - Insulated*

UL File No. E-19189







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100
1707†§	3/8"	5/8"	3/8"	100	8
1708‡§	1/2"	1 5/ ₁₆ "	5/8"	50	14
1709	3/4"	11/8"	3/4"	20	17
1710	1"	13/8"	1"	20	26
1711	11/4"	1 ²¹ / ₃₂ "	1 ⁵ / ₁₆ "	10	42
1712	11/2"	17/8"	11/2"	5	77
1713	2"	21/2"	2"	2	100
1714	21/2"	27/8"	23/8"	2	160
1715	3"	39/16"	3"	1	221
1721	31/2"	4"	313/32"	1	470
1722	4"	419/32"	331/32"	1	610

*UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b). †Suitable for use with armored cable. ‡Suitable for use with metal clad cable.

 \S UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAPTM) MCAPTM is a registered trademark of Southwire Company.

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SQUEEZE TYPE - ZINC DIE CAST

Squeeze Type* - Straight - Non-Insulated

UL File No. E-19189



Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
707DC	3/8"	50	6	
708DC	1/2"	25	8	
709DC	3/4"	25	11	
710DC	1"	10	16	
711DC	11/4"	10	21	
712DC	11/2"	5	28	
713DC	2"	4	36	
714DC	21/2"	2	85	
715DC	3"	1	109	
721DC	31/2"	1	144	
722DC	4"	1	183	

*UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b).

Squeeze Type* - Straight - Insulated

UL File No. E-19189







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
1707DC	3/8"	50	6
1708DC	1/2 "	25	8
1709DC	3/4"	25	11
1710DC	1"	10	16
1711DC	11/4"	10	21
1712DC	11/2"	5	28
1713DC	2"	4	36
1714DC	21/2"	2	85
1715DC	3"	1	109
1721DC	31/2"	1	144
1722DC	4"	1	183

*UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b).

CLAMP TYPE 45° ANGLE – MALLEABLE IRON

Features:

• Male hub threads - NPSM

Standard Materials:

- Mallable Iron
- Steel locknut
- Stamped steel covers

Standard Finishes:

Zinc Plated

Clamp Type 45° Angle - Non-Insulated

UL File No. E-19188 or E-19189







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100
723*	3/8"	3 conductor 4 conductor	17/ ₃₂ " etor No.'s 14, 1 No.'s 14, 12, 1 No.'s 14, 12 Illic conduit ⁵ / ₁₆	0	14
735	1/2"	For 2 conduction Flexible meta	9/ ₁₆ " etor No. 8 allic conduit ½'	25	18
737*	3/4"	3 conductor	²⁵ / ₃₂ " ctor No.'s 6, 4 No.'s 6, 4 Illic conduit ³ / ₄ "	25	24

[&]quot;UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

Clamp Type 45° Angle - Insulated

UL File No. E-19188 or E-19189







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100	
1723*	3/8"	21/32"	¹⁷ / ₃₂ "	50	14	_
1735	1/2"	15/16"	9/16"	25	17	
1737*	3/4"	11/8"	25/32 "	25	24	

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAPTM)

(Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

CLAMP TYPE 90° ANGLE – MALLEABLE IRON

Clamp Type* 90° Angle - Non-Insulated

UL File No. E-19188 or E-19189







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. /100
724†§	3/8"	21/32"	17/ ₃₂ "	50	15
		For 2 condu	ctor No.'s 14,	12, 10	
		3 conductor	No.'s 14, 12,	10	
		4 conductor	No.'s 14, 12		
		Flexible meta	allic conduit 5/1	6" and 3/8	II .
736†	1/2"	15/ ₁₆ "	9/16"	25	19
738†§	3/4"	11/8"	13/16"	20	31
739	1"	1 13/32"	1"	5	50
740	11/4"	121/32"	11/4"	2	113
741	11/2"	17/8"	11/2"	1	188
742	2"	21/2"	1 15/16"	1	236
744	21/2"	3"	21/2"	1	400
745	3"	31/2"	3"	1	600
746	31/2"	4"	313/32"	1	1150
747	4"	419/32"	331/32"	1	1460

^{*}UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b). †Suitable for use with amored cable.

(Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

Clamp Type 90° Angle - Insulated

UL File No. E-19188 or E-19189







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. /100	
1736†	1/2"	15/16"	9/16"	25	19	_
1738†*	3/4"	11/8"	13/16"	20	31	
1739	1"	1 13/ ₃₂ "	1"	5	50	
1740	11/4"	1 ²¹ / ₃₂ "	11/4"	2	113	
1741	11/2"	17/8"	11/2"	1	188	
1742	2"	21/2"	1 15/16"	1	236	
1744	21/2"	3"	21/2"	1	400	
1745	3"	31/2"	3"	1	600	
1746	31/2"	4"	313/32"	1	1150	
1747	4"	419/32"	331/32"	1	1460	

[†]Suitable for use with armored cable.

MCAP™ is a registered trademark of Southwire Company.

[§] UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAPTM)

Flexible Metallic Conduit Fittings

Squeeze, Set Screw & Duplex Type

SQUEEZE TYPE - ZINC DIE CAST

Squeeze Type* 90° Angle - Non-Insulated UL File No. 19189







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
724DC	3/8"	50	8	
736DC	1/2"	25	11	
738DC§	3/4"	10	15	
739DC	1"	5	25	
740DC	11/4"	10	41	
741DC	11/2"	1	117	
742DC	2"	1	119	
744DC	21/2"	1	286	
745DC	3"	1	405	
746DC	31/2"	1	560	
747DC	4"	1	642	

*UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b). §UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA

(Southwire MCAPTM)
MCAPTM is a registered trademark of Southwire Company.

Squeeze Type* 90° Angle - Insulated

UL File No. 19189







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
1724DC	3/8"	50	8	
1736DC	1/2"	25	11	
1738DC	3/4"	10	15	
1739DC	1"	5	25	
1740DC	11/4"	10	41	
1741DC	11/2"	1	117	
1742DC	2"	1	119	
1744DC	21/2"	1	286	
1745DC	3"	1	405	
1746DC	31/2"	1	560	
1747DC	4"	1	642	

 $^{\circ}$ UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b).

SET SCREW TYPE - MALLEABLE IRON

UL File No. E-19188







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100			
702V§	3/8"	5/8"	⁷ / ₁₆ "	100	7			
		For 2 conductor No.'s 14, 12						
		3 conductor No.'s 14, 12						
		4 conductor	No. 14, 5/16" flex	X				

§ UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAPTM)
MCAPTM is a registered trademark of Southwire Company.

DUPLEX TYPE - MALLEABLE IRON

UL File No. E-19188







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100
Straigh 699*§	it ³/8"	5/8"	9/16"	25	20
90 Deg 700*§	ree 3/8"	5/8"	9/16"	25	14

*UL Listed as grounding means.

 \S UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAPTM) MCAPTM is a registered trademark of Southwire Company.

Flexible Metallic Conduit Fittings

Set Screw, Duplex & Screw-In Type - Zinc Die Cast

SET SCREW TYPE - ZINC DIE CAST

UL File No. E-19188







Cable Opening

Cat. #	Trade Size	Desc.	Min.	Max.	Unit Qty.	Wt. Lbs. Per 100	
BX38R	3/8"	Round	.460	.600	50	5	

SET SCREW TYPE - ZINC DIE CAST

UL File No. E-19188







Cable Opening

Cat. #	Trade Size	Min.	Max.	Unit Qty.	Wt. Lbs. Per 100	
ACB38DC	3/8"	.465	.610	50	35	

DUPLEX TYPE - ZINC DIE CAST

UL File No. E-19188







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100	
2699*	3/。"	5/0"	9/10"	25	13	Ī

*UL Listed as grounding means.

SET SCREW FLEX CONNECTOR – ZINC DIE CAST

Angled Set Screw

UL File No. E-19189







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
702DC	1/2"	25	23	
703DC	3/4"	25	35	

SCREW-IN TYPE - ZINC DIE CAST

Straight Connectors - Non-Insulated

UL File No. E-19189







	Trade	Unit	Wt. Lbs.	
Cat. #	Size	Qty.	Per 100	
770DC	3/8"	80	5	
771DC	1/2"	60	5	
772DC	3/4"	35	9	
773DC	1"	15	13	
774DC	11/4"	10	24	
775DC	11/2"	6	35	
776DC	2"	3	52	

Couplings

UL File No. 19189



Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
791DC	1/2"	40	4	
792DC	3/4"	25	8	
793DC	1"	15	12	
794DC	11/4"	10	21	
795DC	11/2"	6	31	
796DC	2"	3	44	

Flexible Metallic Conduit Fittings

Combination Couplings

ACC SERIES COMBINATION COUPLINGS - STEEL

Applications:

 ACC combination couplings are used to join EMT conduit to armored cable, metal clad cable or flexible metallic conduit.

Features:

- Dual gripping saddle design on the coupling safely secures cable or conduit in place and prevents loosening from vibration
- Steel compression ring & nut provide a strong, secure termination point for EMT conduit.
- Tri-head set screw may be installed using a slotted, Phillips or Robertson head screwdriver.
- Steel combination coupling is zinc electroplated for corrosion resistance.

Certifications and Compliances:

- UL Listed
- cUL Listed

Materials and Finishes:

- Body: Steel Zinc electroplated
- Saddle: Steel Zinc electroplated
- Screw: Steel Zinc electroplated

Compression Coupling:



	Cable Opening				
Cat. #	Trade Size	Max.	Min.	Unit Qty.	
ACC38	3/8"	0.660	0.400	25	
ACC50	1/2"	0.920	0.520	10	
ACC75	3/4"	1.100	0.680	10	

Set-Screw Coupling:



Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
ACCSS38* ACCSS50 ACCSS75	3/ ₈ " 1/ ₂ " 3/ ₄ "	25 10 10	9 12 14	
*not UL Listed				

COMBINATION COUPLINGS – ZINC DIE CAST

EMT (Set Screw) to Flexible Steel (Clamp)*

UL File No. E-19189







Cat. #	Trade	Unit	Wt. Lbs.
	Size	Qty.	Per 100
780DC	1/2" to 3/8"	50	8

*UL Listed flexible metallic conduit fittings are suitable as grounding means under NEC 350-5 and suitable for hazardous location use per Class I, Division 2, NEC 501-4(b).

SET SCREW SQUEEZE TYPE COMBINATION COUPLINGS – ZINC DIE CAST

Set Screw Squeeze Type

UL File No. E-19189





Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FECS38DC	1/2" to 3/8"	50	34
FECS50DC	1/2" to 1/2"	25	22
FECS75DC	3/4" to 3/4"	25	36

SCREW-IN TYPE COMPRESSION COMBINATION COUPLINGS – ZINC DIE CAST

UL File No. E-19189





Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FECC50DC	1/2"	50	41
FECC75DC	3/4"	25	31
FECC100DC	1"	25	46

Flexible Metallic Conduit Fittings

Clamps & Anti-Short Bushings

CLAMPS "SNAP-ON" - STEEL

Light Gauge



Cat. #	Conduit Sizes Rigid	Size of Strap Inside	Unit Qty.	Wt. Lbs. Per 100	
566	1/4"	.540	500	2	
567BX	3/8"	.675	100	14	

ANTI-SHORT BUSHINGS







Cat. #	FMC Trade Size	Armoured Cable Size	Unit Qty.
ASB 0	5/16"	14 – 2, 14 – 3, 12 – 2	100
ASB 1	3/8"	14 – 4, 12 – 3, 6 – 1, 4 – 1	100
ASB 2	⁷ / ₁₆ "	12 - 4, 10 - 2, 10 - 3, 2 - 1	50
ASB 3	1/2"	10 – 4, 8 – 2, 8 – 3, 1 – 1	50
ASB 4	3/4"	8 - 4, 6 - 4, 6 - 3, 6 - 2, 4 - 3, 4 - 2	50
ASB 5	1"	3 - 1, 2 - 1, 2 - 1 / 0, 1 - 300 MCM 1 - 350 MCM, 1 - 400 MCM, 1 - 450 MCM, 1 - 500 MCM	25
ASB 6	11/4"	4-1, 4-1/0, 4-2/0, 3-1/0, 3-2/0, 3-3/0, 2-2/0, 2-3/0 2-4/0, 1-600 MCM, 1-650 MCM, 1-700 MCM, 1-750 MCM, 1-800 MCM, 1-900 MCM	10
ASB 7	11/2"	4 - 3 / 0, 4 - 4 / 0, 3 - 4 / 0, 3 - 250 MCM, 3 - 300 MCM, 2 - 250 MCM, 2 - 300 MCM, 2 - 350 MCM, 1 - 1000 MCM	10
ASB 8	2" to 2½"	4 – 250 MCM, 4 – 300 MCM, 4 – 350 MCM, 4 – 400 MCM, 4 – 450 MCM, 4 – 500 MCM, 3 – 350 MCM, 3 – 400 MCM, 3 – 450 MCM, 3 – 500 MCM, 2 – 400 MCM, 2 – 450 MCM, 2 – 500 MCM	10

Note: Bushings are packed in clear poly bags.

Anti-short bushings have a temperature rating of 90°C

Non-Metallic Sheathed Cable Connectors

Clamp, Set Screw & Duplex Type

QUICK-LOK™ NMQ SNAP-IN CONNECTOR CLAMP TYPE – ZINC DIE CAST

Features:

- No locknut required
- Easy to install: secure cable with set screw clamp, insert, and snap in

UL File No. E-302794





Cat. #	Trade Size	K.O. Size	Unit Qty.	Wt. Lbs. Per 100	
50NMQ	3/8"	1/2" For 2 coi	100 nductor No.'s	3 s 14, 12	
75NMQ	3/4"		100 nductor No. 8 ctor No. 10	7	

CLAMP TYPE - STEEL

UL File No. E-22132







		Clam	p Openir	ng		
Cat. #	K.O. Size	Min.	Max.	Width	Unit Qty.	Wt. Lbs. Per 100
631	3/4"	33/64		13/ ₁₆ " conductor N uctor No.'s	, -	14
632	1"	3/8"	For 2 c	11/64" conductor No.'s	,	21

NONMETALLIC CABLE CONNECTOR - PLASTIC

Applications:

- Used to terminate NM sheathed cable to a knockout in a dry location box or enclosure
- For use with one or two cables



Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
NMC1	1/2"	100	1	
NMC2	3/4"	50	1	

Crouse-Hinds

CLAMP TYPE - ZINC DIE CAST

UL File No. E-302794 UL File No. E-22134





Cat. #	Trade Size	K.O. Size	Unit Qty.	Wt. Lbs. Per 100
759DC	3/8"	1/2" For 2 conduct 3 conductor N	100 or No.'s 14, 12 lo.'s 14, 12	4, 10
2631	3/4"	3/4" For 3 conduct	50 or No.'s 8, 6	9
2632	1"	1" For 3 conduct	25 or No.'s 6, 4	12
2633	11/4"	11/4" For 3 conduct	10 or No.'s 3, 2	22
2670	11/2"	1½" For 3 conduct	5 or No. 2 / 0	25
2671	2"	2" For 3 conduct	10 or No. 4 / 0	40

SET SCREW TYPE - ZINC DIE CAST

UL File No. E-19188, E-19189







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100	
ACB38DC	3/8"	50	35	

DUPLEX TYPE - ZINC DIE CAST

UL File No. E-19188







Cat. #	Trade Size	Diam. of Opening for Cable	Diam. of Bushed Hole	Unit Qty.	Wt. Lbs. Per 100	
2699*	3/8"	5/8"	9/16"	25	13	

Service Entrance Elbows & Connectors

SERVICE ENTRANCE ELBOWS – ALUMINUM

Gasketed

UL File No. E-15022, E-7008







Cat. #	Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	
SLB1	1/2"	10	50	25	
SLB2	3/4"	10	50	30	
SLB3	1"	5	25	51	
SLB4	11/4"	2	10	83	
SLB5	11/2"	1	5	117	
SLB6	2"	1	5	192	

SERVICE ENTRANCE CABLE CONNECTORS – MALLEABLE IRON

Non-watertight for Oval Cable

UL File No. E-22134





Wt. Lbs.

Clamp Opening Width

Cat. #	K.O. Size	Min.	Max.	Per 100
631	3/4"	33/64"	13/ ₁₆ " For 2 conductor	14 ctor No.'s 8, 6 No.'s 8, 6
632	1"	3/8"	11/64" For 2 conductor	21 ctor No.'s 8, 6 No.'s 8, 6

SERVICE ENTRANCE CABLE CONNECTORS – ZINC DIE CAST

Non-watertight for Oval Cable UL File No. E-302794 UL File No. E-22134





Clamp Opening						Wt. Lbs.
Cat. #	K.O. Size	Min.	Max.	Width	Unit Qty.	Per 100
2631	3/4"	.300"	.075"	.075"	50	9
2632	1"	.350"	.920"	.920"	25	12
2633	11/4"	.335"	.960"	.960"	10	22
2670	11/2"	.350"	1.00"	1.00"	5	25
2671	2"	700"	1 30"	1 30"	10	40

SERVICE ENTRANCE CABLE WATERTIGHT CONNECTORS - ZINC DIE CAST

UL File No. E-22134





Applications:

 Service Entrance Cable Watertight connectors are used for sealing and terminating Oval Type SE or USE cable to a threaded entry of a watertight box or enclosure



Cat. #	Size	Description	Unit Qty.	Wt. Lbs. Per 100
WTC50U	1/2"	USE Watertight Connector 12/2	25	24
WTC75U	3/4"	USE Watertight Connector 12/3	25	38
WTC1004	1"	Watertight Connector 3#4	10	21
WTC1006	1"	Watertight Connector 3#6	10	21
WTC1008	1"	Watertight Connector 3#8	10	22
WTC1251	11/4"	Watertight Connector 3#1	10	38
WTC1252	11/4"	Watertight Connector 3#2	5	38
WTC1253	11/4"	Watertight Connector 3#3	5	39
WTC1501	11/2"	Watertight Connector 3#1/0	5	57
WTC1502	11/2"	Watertight Connector 3#2/0	5	57
WTC2001	2"	Watertight Connector 3#1/0	5	88
WTC2002	2"	Watertight Connector 3#2/0	10	93
WTC2003	2"	Watertight Connector 3#3/0	5	87
WTC2004	2"	Watertight Connector 3#4/0	5	85
WTC2004A	2"	Watertight Connector 3#4/0	5	84

Straps & Service Entrance Caps

PERFORATED STRAP – STEEL 10 Foot Coils



Cat. #	Description	Qty.	Per 100
3000	3/4 x .035 Galvanized 1/4" holes – 1/2" to 1" Centers	10	10

SERVICE ENTRANCE STRAPS - STAMPED STEEL ZINC PLATED

Applications:

 Service Entrance Straps are used to fasten SE and USE type cable securely to a wall without damage to the cable jacket or the cable itself



Cat. #	Cable Range	Unit Qty.	Wt. Lbs. Per 100
One Hole NM700* SE701 SE702 SE703 SE704	14/2-12/2 8/3-4/3 3/3-2/3 1/3-2/0 3/0-4/0	100 100 100 25 25	1.0 1.5 2.0 7.25 8.5
Two Hole SE711 SE712 SE713 SE714	8/3-4/3 3/3-2/3 1/3-2/0 3/0-4/0	100 100 25 25	2.5 3.0 4.0 4.5

*Designed for #12 AWG 3-wire cable, this type cable is too small and is no longer service entrance cable. It is suitable for use with Romex or Underground Feeder Cable.

SERVICE ENTRANCE CAPS - ALUMINUM DIE CAST

Applications:

- Use in overhead service entrance
- Mounts on top of EMT, Rigid or IMC conduit
- Serves as a connecting point for service entrance wires
- Available in Clamp Type, Set-Screw, Threaded and Mast Type styles



Wt. Lbs.

Unit



		Unit	Wt. Lbs.
Cat. #	Size	Qty.	Per 100
Clamp Type			-
EHC1	1/2"	15	11
EHC2	3/4"	10	21
EHC3	1"	7	27
EHC4	11/4"	5	32
EHC5	11/2"	3	53
EHC6	2"	8	89
EHC7	21/2"	3	300
EHC8	3"	3	322
EHC9	31/2"	2	513
EHC10	4"	2	519
	•	_	
Threaded Type	1/ 11	45	10
EHT1	1/2"	15	19
EHT2	3/4"	10	24
EHT3	1"	7	24
EHT4	11/4"	5	28
EHT5	11/2"	3	51
EHT6	2"	8	81
EHT7	21/2"	3	272
EHT8	3"	3	298
EHT9	31/2"	2	538
EHT10	4"	2	541
Set Screw Type			
EHSS1	1/2"	15	15
EHSS2	3/4"	10	18
EHSS3	1"	7	24
EHSS4	11/4"	5	28
EHSS5	11/2"	3	58
EHSS6	2"	8	86
EHSS7	21/2"	3	308
EHSS8	3"	3	308
EHSS9	31/2"	2	517
EHSS10	4"	2	517
Mast Type			
EHMT1	11/4" - 2"	2	45
EHMT2	11/4" – 2"	1	75
EHMT3	$1\frac{1}{4} - 2$ $1\frac{1}{2}$ - $2\frac{1}{2}$	2	73
EHMT4	$2" - 2^{1/2}$	1	75 75
LI IIVI I 4	Z - Z /2	1	13

Grounding Fittings

GROUNDING FITTINGS GROUND CLAMP – ZINC DIE CAST

Applications:

• For Bare or Insulated Wire or Armored Grounding Cable







Cat. #	Grounding Conductor Electrode Clamping Range	Lug Conductor Range	Unit Qty.	Wt. Lbs. Per 100
141DC	1/2", 3/4", 1"	#8 - #2	25	16

GROUND CLAMP - BRONZE PLATED

Applications:

• For Bare or Insulated Wire or Armored Grounding Cable







Cat. #	Grounding Conductor Electrode Clamping Range	Lug Conductor Range	Unit Qty.	Wt. Lbs. Per 100
141PDC	1/2", 3/4", 1"	#8 – #2	25	16

GROUND CLAMP – COPPER ALLOY FOR BARE WIRE

Applications:

- Used to connect bare copper wire to water pipe, re-bar, ground rod, or copper water tubing for grounding
- Available with steel or bronze screws (bronze are listed for direct burial)
- Cast from high strength, highly conductive copper alloy



Grounding

Conductor





Cat. #	Electrode Clamping Range	Description	Unit Qty.	Wt. Lbs. Per 100
GCS13	1/2" - 1"	Bare Wire	100	12
GCS46	11/4" - 2"	Bare Wire	50	30
GCS610	21/2" - 4"	Bare Wire	12	74
GCB13	1/2" - 1"	Bronze Screw Direct Burial	100	18

GROUND CLAMP – COPPER ALLOY FOR ARMORED CABLE

Applications:

- Used to connect armored cable to water pipe for grounding
- Special pressure bar grips armored cable insulation to decrease chances of grounding conductor being pulled out
- Cast from high strength, highly conductive copper alloy 360 Degree Swivel Type
- Pressure bar swings 360 degrees for easy alignment
- Assembled with zinc plated steel screws
- Cast from high strength, highly conductive copper alloy







0-1-11	Conductor Electrode Clamping	Paradallar	Unit	Wt. Lbs.
Cat. #	Range	Description	Qty.	Per 100
GCAB13	1/2" - 1"	Bronze Screw Direct Burial	25	24
GCAS13	1/2" - 1"	360 Degree Swivel	25	35

Grounding Fittings

GROUND CLAMP – COPPER ALLOY FOR RIGID CONDUIT

Applications:

- Used to connect grounding conductor in rigid conduit to water pipe for grounding
- · Assembled with zinc plated steel screws
- Cast from high strength, highly conductive copper alloy



Cat. #	Conductor Electrode Clamping Range	Description	Unit Qty.	Wt. Lbs. Per 100
GCR13	1/2" - 1"	Rigid Clamp	50	26
GCRC13	¹ / ₂ " - 1"	Regular Hub	50	26
GCRCS13	¹ / ₂ " - 1"	360 Degree Swivel	50	26

GROUND CLAMP – COPPER ALLOY FOR RIGID OR EMT CONDUIT 360 DEGREE SWIVEL

Applications:

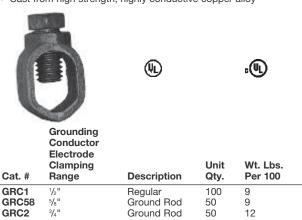
- Used to connect grounding conductor in rigid or EMT conduit to water pipe for grounding
- Pressure bar clamps conduit in place and swings 360 degrees for easy alignment
- · Assembled with zinc plated steel screws
- · Cast from high strength, highly conductive copper alloy



GROUND CLAMP – COPPER ALLOY FOR DIRECT BURIAL

Applications:

- Available in ½", ¾", and 5/8" Trade Sizes
- Used to connect a grounding conductor to a driven ground rod
- Approved for direct burial in ground and concrete
- Assembled with bronze hexagon headed bolt
- · Cast from high strength, highly conductive copper alloy



Cat. #	AC	мс	FMC	NM	SE	FLEX to EMT	AC/ FLEX to EMT	Cable Ranges	Armored Cables Steel & Aluminum	Metal Clad Cables Steel & Aluminum	Conduit Cable Type
631				•	•			For 2 conductor No.'s 8, 6 3 conductor No.'s 8, 6			
632				•	٠			For 2 conductor No.'s 8, 6 3 conductor No.'s 8, 6			
699	•	•	•					AC 0.470min / 12/4max FE & AL MCI 0.470min / 0.500max FE	14/2, 14/3, 14/4, 12/2, 12/3,12/4 .470/.560	ST: 14/2, 14/3, 14/4, 12/2, .470/.500	FE RWFMC
700	•	•	•								
707	•	•	•					AC 0.560, MCI 0.500 FE & AL	12/4	AL: 14/4 ST: 12/3	FE RWFMC
708		•	•					MCI 0.870 AL		AL: 6/3	FE RWFMC
709			•								FE RWFMC
710			•								FE RWFMC
711			•								FE RWFMC
712			•								FE RWFMC
713			•								FE RWFMC
714			•								FE RWFMC
715			•								FE RWFMC
721			•								FE RWFMC
722			•								FE RWFMC
724								MCI 0.470min / 0.640max FE MCI 0.500min / 0.630max AL	14/4, 12/2, 12/3, 12/4, .470/.550	12/3, 12/4, 10/2, 10/3, 10/4, 8/2, .500/.630 ST: 14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, 10/3, 10/4, 8/2, .470/.630	FE RWFMC
724	•	•	•					AC 0.460min / 12/4max FE & AL MCI 0.500min / 0.630max FE MCI 0.500min / 0.640max AL	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, .460/.550	AL: 14/4, 12/2, 12/3, 12/4, 10/2, 10/3, 10/4, 8/2, .500/.630 ST: 12/3, 12/4, 10/2, 10/3, 10/4, 8/2, .500/.630	FE RWFMC
735			٠								FE RWFMC
736			•								FE RWFMC
737	•	•	•					AC 0.990 FE & AL MCI 0.950min /1.020max FE & AL	4/3	6/4, 4/3 .950/1.020	FE RWFMC
738	•	•	•					AC 0.920min / 4/3max FE & AL MCI 0.840 FE MCI 0.880min / 1.030max AL	6/4, 4/3, .920/1.100	AL: 6/3, 6/4, 4/3, .880/1.030 ST: 6/3	FE RWFMC
739			•								FE RWFMC
740			•								FE RWFMC
741			•								FE RWFMC
742			•								FE RWFMC
744			•								FE RWFMC
745			•								FE RWFMC
746			•								FE RWFMC
			•		-			 		+	FE RWFMC

Crouse-Hinds

						FLEX to	AC/ FLEX to		Armored Cables Steel &	Metal Clad Cables Steel &	Conduit
Cat. #	AC •	MC •	FMC •	NM	SE	EMT	EMT	Cable Ranges AC 0.560, MCI 0.500 FE & AL	Aluminum	Aluminum	Cable Type FE RWFMC
-	Ŀ	•						MCI 0.870 AL		A1 . C/2	FE RWFMC
1708 1709		•	•					WCI 0.870 AL		AL: 6/3	FE RWFMC
1710	_				_						FE RWFMC
			•		_						FE RWFMC
1711			•		_						
1712			•								FE RWFMC
1713			•								FE RWFMC
1714			•								FE RWFMC
1715			•								FE RWFMC
1721			•								FE RWFMC
1722			•								FE RWFMC
1723			•					AC 0.470min / 12/4max FE & AL MCI 0.470mon / 0.640max FE MCI 0.500min / 0.630max AL	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, .470/.550	AL : 14/4, 12/2, 12/3, 12/4, 10/2, 10/3, 10/4, 8/2, 500/.630 ST : 14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, 10/3, 10/4, 8/2, .470/.630	FE RWFMC
1735			•								FE RWFMC
1736			•								FE RWFMC
1737	•	•	•					AC 0.990 FE & AL MCI 0.950min /1.020max FE & AL	4/3	6/4, 4/3, .950/1.020	FE RWFMC
1738	٠	•	•					AC 0.920min / 4/3max FE & AL MCI 0.840 FE MCI 0.880min / 1.030max AL	6/4, 4/3, .920/1.100	AL: 6/3, 6/4, 4/3, .880/1.030 ST: 6/3	FE RWFMC
1739			•								FE RWFMC
1740			•								FE RWFMC
1741			•								FE RWFMC
1742			٠								FE RWFMC
1744			•								FE RWFMC
1745			•								FE RWFMC
1746			•		\vdash						FE RWFMC
1747			•								FE RWFMC
2631				•	•			For 3 conductor No.'s 8, 6			
2632				•	•			For 3 conductor No.'s 6, 4			
2633				•	•			For 3 conductor No.'s 3, 2			
2670				•	•			For 3 conductor No. 2/0			
2671				•	•			For 3 conductor No. 4/0			
2699	•	•	•								
1707DC			•								
1708DC			•								
1709DC			•								
1710DC			•								
1711DC	\vdash		•								
1712DC	\vdash		•								
1713DC			•		\vdash						
1714DC			•								
1715DC	\vdash		•								
1721DC			•								
1722DC	\vdash		•		\vdash						
1724DC	\vdash		•								
1736DC	\vdash		•		\vdash						
1738DC			•			 					
	ored C	able		atal/Cla	d Into	rlookod [E DWEMO	= Steel Reduced/Wall Flexible Metallic Co	nduit	L	

AC = Armored Cable MCI = Metal/Clad Interlocked FE RWFMC = Steel Reduced/Wall Flexible Metallic Conduit FE = Steel AL = Aluminum FEFMC = Steel Flexible Metallic Conduit

Cat. #	AC	мс	FMC	NM	SE	FLEX to EMT	AC/ FLEX to EMT	Cable Ranges	Armored Cables Steel & Aluminum	Metal Clad Cables Steel & Aluminum	Conduit Cable Type
1739DC	Α0	IVIO	•	14141	J.	LIVII	LIVII	Cable Hanges	Aluminum	Aldininani	Cable Type
1740DC			•	-	├						
1741DC			•	-	├						
1742DC			•	_	\vdash						
1744DC			•	-	⊢						
1745DC			•		\vdash						
1746DC			•		\vdash						
1747DC			•		\vdash						
702V	•	•	•		\vdash						
707DC			•		\vdash						
708DC			•		\vdash						
709DC			•		\vdash						
710DC			•		\vdash						
711DC			•		\vdash						
711DC			•		\vdash						
713DC			•		\vdash						
714DC			•								
715DC			•		\vdash						
721DC			•		\vdash						
722DC			•		\vdash						
724DC			•		\vdash						
736DC			•								
738DC			•		\vdash						
739DC			•								
740DC			•		_						
741DC			•		_						
742DC			•		\vdash						
744DC			•		\vdash						
745DC			•								
746DC			•								
747DC			•								
759DC				•				For 2 conductor No.s 14, 12, 10			
								3 conductor No.'s 14, 12			
770DC			•								
771DC			•								
772DC			•								
773DC			•								
774DC			•								
775DC			•								
776DC			•								
780DC						٠					
791DC			•								
792DC			•								
793DC			•								
794DC			•								
795DC			•								
796DC			•								
AC = Armo								= Steel Reduced/Wall Flexible Metallic Conduit	onduit		

Crouse-Hinds

Cat. #	AC	мс	FMC	NM	SE	FLEX to EMT	AC/ FLEX to EMT	Cable Ranges	Armored Cables Steel & Aluminum	Metal Clad Cables Steel & Aluminum	Conduit Cable Type
ACB100	•	•	•					AC 0.930min / 1/4max FE & AL MCI 0.960min / 1.468max FE & AL	6/4, 4/3, 4/4, 3/2, 3/3, 2/3, 2/4, 1/3, 1/4, .930/1.468	6/4, 4/3, 4/4, 3/3, 3/4, .960/1.468	FEFMC
ACB125	٠	•	•								FEFMC
ACB150		•	•								FEFMC
ACB200		•	•								FEFMC
ACB250		•	•								FEFMC
ACB300		•	•								FEFMC
ACB350			•								FEFMC
ACB38	•	•	•					AC 0.450min / 10/2max FE & AL MCI 0.450min / 0.660max FE & AL	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, .450/.660	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, .450/.660	FEFMC
ACB400			•								1
ACB50	•	•	•					AC 0.550min / 6/3max FE & AL MCI 0.640min / 0.920max FE & AL	12/4, 10/2, 10/3, 10/4, 8/2, 8/3, 8/4, 6/2, 6/3, .550/.920	10/2, 10/3, 10/4, 8/2, 8/3, .640/.920	FEFMC
ACB75	•	•	•					AC 0.930min / 4/3max FE AC 0.680min / 4/3max AL MCI 0.730min / 1.075max FE MCI 0.930min / 1.075max AL	AL: 8/3, 8/4, 6/2, 6/3, 6/4, 4/2, 4/3, .680/1.075 ST: 6/4, 4/2, 4/3, .930/1.075	AL: 6/4, 4/3, 3/3, .930/1.075 ST: 8/3, 8/4, 6/2, 6/3, 6/4, 4/3, 3/3, .730/1.075	FEFMC
ACC38						•	•				
ACC50						•	•				
ACC75						•	•				
ACCSS38						•	•				
ACCSS50						•	•				
ACCSS75						•	•				
ASB 0	•		•					14/2, 14/3, 12/2			
ASB 1	٠		•					14/4, 12/3, 6/1, 4/1			
ASB 2	٠		•					12/2, 10/2, 10/3, 2/1			
ASB 3	٠		•					10/4, 8/2, 8/3, 1/1			
ASB 4	•		•					8/4, 6/4, 6/3, 6/2, 4/3, 4/2	1		
ASB 5	•		•					3/1, 2/1, 2-1/0, 1-300 MCM, 1-350 MCM, 1-400 MCM, 1-450 MCM, 1-500 MCM			
ASB 6	•		•					4/1, 4-1/0, 4-2/0, 3-1/0, 3-2/0, 3-3/0, 2-2/0, 2-3/0, 2-4/0, 1-600 MCM, 1-650 MCM, 1-700 MCM, 1-750 MCM, 1-800 MCM, 1-900 MCM,			
ASB 7	•		•					4-3/0, 4-4/0, 3-4/0, 3-250 MCM, 3-300 MCM, 2-250MCM, 2-300 MCM, 2-350 MCM, 1-1000 MCM			
ASB 8	•		•					4-250 MCM, 4-300 MCM, 4-350 MCM, 4-400 MCM, 4-450 MCM, 4-500 MCM, 3-350 MCM, 3-400 MCM, 3-450 MCM, 3-500 MCM, 2-400 MCM, 2-450 MCM, 2-500 MCM			

AC = Armored Cable MCI = Metal/Clad Interlocked FE RWFMC = Steel Reduced/Wall Flexible Metallic Conduit FE = Steel AL = Aluminum FEFMC = Steel Flexible Metallic Conduit

Cat. #	AC	мс	FMC	NM	SE	FLEX to EMT	AC/ FLEX to EMT	Cable Ranges	Armored Cables Steel & Aluminum	Metal Clad Cables Steel & Aluminum	Conduit Cable Type
QLK50D	٠	•	•						14/2, 14/3, 14/4, 12/2, 12/3, 12/4	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2	
QLK50S	٠	•	•						14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, 10/3	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2	
QLK75	•	•	•						10/4, 10/5, 8/3, 8/4, 6/3	10/3, 10/4, 8/2, 8/3, 6/2,	
SSACB38	٠	•	•					AC 0.450min / 10/2max FE & AL MCI 0.450min / 0.660max FE & AL	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, .450/.660	.450/.660	FEFMC
SSACB50	٠	٠	•					AC 0.550min / 6/3max FE & AL MCI 0.640min / 0920max FE & AL	12/4, 10/2, 10/3, 10/4, 8/2, 8/3, 8/4, 6/2, 6/3, .550/.920	.640/3920	FEFMC
SSACB75	٠	•	•					AC 0.930min / 4/3max FE AC 0.680min / 4/3max AL MCI 0.730min / 1.075max FE MCI 0.930min / 1.075max AL	8/3, 8/4, 6/2, 6/3, 6/4, 4/2, 4/3, .930/1.075	AL: .930/1.075 ST: .730/1.075	FEFMC
SSACB100	•	•	•					AC 0.930min / 1/4max FE & AL MCI 0.960min / 1.468max FE & AL	6/4, 4/3, 4/4, 3/3, 3/4, 2/3, 2/4, 1/3, 1/4, .930/1.468	.960/1.468	FEFMC
ACB3845	٠	٠	•					AC 0.450min / 10/2max FE & AL MCI 0.450min / 0.660max FE & AL	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, .450/.660	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, .450/.660	FEFMC
ACB5045	٠	٠	•					AC 0.550min / 6/3max FE & AL MCI 0.640min / 0.920max FE & AL	12/4, 10/2, 10/3, 10/4, 8/2, 8/3, 8/4, 6/2, 6/3, .550/.920	10/2, 10/3, 10/4, 8/2, 8/3, .640/.920	FEFMC
ACB7545	٠	•	•					AC 0.930min / 4/3max FE AC 0.680min / 4/3max AL MCI 0.730min / 1.075max FE MCI 0.930min / 1.075max AL	AL: 8/3, 8/4, 6/2, 6/3, 6/4, 4/2, 4/3, .680/1.075 ST: 6/4, 4/2, 4/3, .930/1.075	AL: 6/4, 4/3, 3/3, .930/1.075 ST: 8/3, 8/4, 6/2, 6/3, 6/4, 4/3, 3/3, .730/1.075	FEFMC
ACB3890	•	٠	•					AC 0.450min / 10/2max FE & AL MCI 0.450min / 0.660max FE & AL	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, .450/.660	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, .450/.660	FEFMC
ACB5090	٠	•	•					AC 0.550min / 6/3max FE & AL MCI 0.640min / 0.920max FE & AL	12/4, 10/2, 10/3, 10/4, 8/2, 8/3, 8/4, 6/2, 6/3, .550/.920	10/2, 10/3, 10/4, 8/2, 8/3, .640/.920	FEFMC
ACB7590	٠	•	•					AC 0.930min / 4/3max FE AC 0.680min / 4/3max AL MCI 0.730min / 1.075max FE MCI 0.930min / 1.075max AL	AL: 8/3, 8/4, 6/2, 6/3, 6/4, 4/2, 4/3, .680/1.075 ST: 6/4, 4/2, 4/3, .930/1.075	AL: 6/4, 4/3, 3/3, .930/1.075 ST: 8/3, 8/4, 6/2, 6/3, 6/4, 4/3, 3/3, .730/1.075	FEFMC
ACB10090	•	٠	•					AC 0.930min / 1/4max FE & AL MCI 0.960min / 1.468max FE & AL	6/4, 4/3, 4/4, 3/2, 3/3, 2/3, 2/4, 1/3, 1/4, .930/1.468	6/4, 4/3, 4/4, 3/3, 3/4, .960/1.468	FEFMC
BX38	•	•	•						14/2	14/2	FEFMC
BX38R	•	•	•	\vdash					10/4	10/2	FEFMC
FECC50DC	Н	\vdash		\vdash		•	 				
FECC75DC	$\vdash \vdash$	$\vdash \vdash$		\vdash	\vdash	•	 				
FECC100DC	$\vdash \vdash$	$\vdash \vdash$		\vdash	\vdash	•	 				
FECS38DC	\vdash	\vdash		\vdash		•	 				
FECS75DC	$\vdash \vdash$	\vdash		\vdash	\vdash	•	 				
702DC	\vdash	\vdash	•	\vdash	\vdash		 				
703DC	\vdash	\vdash	•	\vdash	\vdash		 				
ACMF38	٠	•	•					14-2 through 10-2 FE or AL 14-2 OD .470 through 10-3 OD .610 14-2 OD .469 though 10-3 OD.600 MCI			FE RWFMC
ACB38DC	٠	•	•	•	•			14-2 OD .465 through 10-3 OD .500 FE 14-2 OD .480 through 10-3 OD .585 AL 0.475 through 0.600 MCl 0.468 through 0.610 ALMCl For 12/2 through 10/3 Oval NMSE Cable	14/2, 10/3	14/2, 10/3	FEFMC
567BX	•	٠	•								

$$\label{eq:action} \begin{split} AC &= Armored \ Cable \quad MCI = \ Metal/Clad \ Interlocked \quad FE \ RWFMC = Steel \ Reduced/Wall \ Flexible \ Metallic \ Conduit \\ FE &= Steel \quad AL = Aluminum \quad FEFMC = Steel \ Flexible \ Metallic \ Conduit \end{split}$$

Condulet® Conduit Outlet Bodies, Covers and Gaskets - Stainless Steel

Eaton's Crouse-Hinds Condulet[®] Stainless Steel Fittings deliver power where you need it, saving you time and money throughout the life of your facility.

Superior resistance to corrosion and heat, combined with unmatched strength, make stainless steel Condulet bodies and boxes a long-term solution for even the most extreme environments.

Applications:

Conduit outlet bodies are installed in conduit systems to:

- Act as pull outlets for conductors being installed
- Provide openings for making splices and taps in conductors
- Act as mounting outlets for lighting fixtures and wiring devices
- · Connect conduit sections
- Provide taps for branch conduit runs
- Make 90° bends in conduit runs
- Provide for access to conductors for maintenance and future system changes

Features:

- Self-healing properties of stainless steel fittings help reduce the penetration of rust/corrosion and eliminate damage to the fitting
- Stainless steel fittings retain their strength in extreme heat and extreme cold conditions
- Fitting surface is easy to maintain and keep clean
- Easy cleaning capabilities make these fittings perfect for food processing and other hygienic areas where wash downs are common
- Superior strength and durability greatly reduce replacement of fittings - this will lower your total cost of ownership and increase your return on investment
- Stainless steel fittings do not require harsh environment-damaging cleaners to keep them looking like new
- Conduit hubs have tapered threads and feature integral bushing for protection of wire insulation
- Outlet bodies designed to match conduit size for neat, compact installations

Certifications and Compliances:

- UL Standard 514A
- CSA Standard C22.2 No. 18.1-04
- Raintight when installed with cover and gasket

Standard Materials:

- Bodies 316 stainless steel
- Covers 316 stainless steel
- Cover Screws 316 stainless steel
- Gasket neoprene



Dimension

- Overall length
 Overall height
- B Overall heightC Overall width
- D Width of opening
- Length of opening

Ordering Information - conduit body supplied with cover and gasket

T Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	E
T18SS	1/2"	5.56	1.75	1.31	1.02	3.15
T28SS	3/4"	6.61	2.00	1.63	1.27	3.92
T38SS	1"	7.53	2.31	1.78	1.42	4.61
′ T48SS	11/4"	8.75	2.50	2.25	1.83	5.50
T58SS	11/2"	9.37	2.75	2.47	2.03	6.12
T68SS	2"	11.50	3.38	3.13	2.50	8.00
T88SS	3"	15.00	4.63	4.34	3.71	10.25
T108SS	4"	18.25	5.44	5.50	4.87	13.00

LB Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	E
LB18SS	1/2"	4.86	1.35	1.31	1.02	3.15
LB28SS	3/4"	5.75	1.63	1.63	1.27	3.94
LB38SS	1"	6.48	2.00	1.78	1.42	4.55
LB48SS	11/4"	7.75	3.50	2.25	1.83	5.50
LB58SS	11/2"	8.38	2.75	2.47	2.03	6.13
LB68SS	2"	10.50	3.38	3.13	2.50	8.00
LB88SS	3"	13.50	6.13	4.34	3.71	10.25
LB108SS	4"	16.63	7.25	5.50	4.87	13.00

TB Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	Е
TB28SS	3/4"	6.61	2.88	1.63	1.27	3.95
TB38SS	1"	7.53	3.23	1.78	1.42	4.61
TB48SS	11/4"	8.75	3.50	2.25	1.83	5.50
TB58SS	11/2"	9.37	3.75	2.47	2.03	6.12
TR68SS	2"	11.50	4.38	3 13	2.50	8 00

C Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	Е
C18SS	1/2"	5.56	1.38	1.31	1.02	3.15
C28SS	3/4"	6.56	1.63	1.63	1.27	3.94
C38SS	1"	7.50	2.00	1.78	1.42	4.61

LL Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	Е
LL28SS LL38SS	3/ ₄ " 1"		1.63 2.00			

LR Conduit Body, Cover and Gasket



Catalog Number	Trade Size	Α	В	С	D	Е
LR28SS LR38SS	3/ ₄ " 1"		1.63 2.00			

Condulet® Stainless Steel Conduit Device Boxes, Covers and Gaskets

Eaton's Crouse-Hinds Condulet[®] Stainless Steel Device Boxes deliver power where you need it, saving you time and money throughout the life of your facility.

Superior resistance to corrosion and heat, combined with unmatched strength, make stainless steel Condulet bodies and boxes a long-term solution for even the most extreme environments.

Applications:

Cast device boxes are installed in conduit systems to:

- · Accommodate wiring devices
- · Act as pull boxes for conductors in a conduit system
- Provide openings to make splices and taps in conductors
- Provide access to conductors for maintenance and future system changes
- · Connect conduit systems

Features:

- Self-healing properties of stainless steel fittings help reduce the penetration of rust/corrosion and eliminate damage to the fitting
- Stainless steel fittings retain their strength in extreme heat and extreme cold conditions
- Fitting surface is easy to maintain and keep clean
- Easy cleaning capabilities make these fittings perfect for food processing and other hygienic areas where wash downs are common
- Superior strength and durability greatly reduce replacement of fittings - this will lower your total cost of ownership and increase your return on investment
- Stainless steel fittings do not require harsh environmentdamaging cleaners to keep them looking like new
- Internal green grounding screw standard
- Tapered threads for protection of wire insulation
- Wide selection of covers available
- · Single or double conduit entry
- Ample wiring room provided for easy installations

Certifications and Compliances:

- UL Standard 514A
- CSA Standard C22.2 No. 18.1-04
- Raintight when installed with cover and gasket

Standard Materials:

- Bodies 316 stainless steel
- Covers 316 stainless steel
- Cover Screws 316 stainless steel
- Gasket neoprene



Condulet® Stainless Steel Conduit Device Boxes, Covers and Gaskets

- **Dimension**Length of box
 Overall length (including hubs)
- Width of box
- Overall width (including hubs)
- Height of box
- Overall height (including hubs)

Ordering Information FD Device Body

Catalog Number	Trade Size	Α	В	С	D	E	F
FD2SS	3/4"	4.63	5.41	2.94	2.94	3.03	3.03

FDC Device Body



Catalog Number	Trade Size	Α	В	С	D	E	F
FDC2SS	3/4"	4.63	6.19	2.94	2.94	3.03	3.03

FDS Device Body



Catalog Number	Trade Size	Α	В	С	D	E	F
FDS2SS	3/4"	4.63	5.41	2.94	2.94	3.03	3.03

FDA Device Body



Catalog Number	Trade Size	Α	В	С	D	E	F
FDA2SS	3/4"	4.63	4.63	2.94	2.94	3.03	3.80

FDX Device Body



Catalog Number	Trade Size	Α	В	С	D	E	F
FDX2SS	3/4"	4.63	6.19	2.94	4.50	3.03	3.03

Ordering Information - Device Box Cover and Gasket

Blank Cover



Catalog Number DS7000BC

Blank Formed Cover



Catalog Number DS7000BF

Switch Formed Cover



Catalog Number DS7000SF

Receptacle Formed Cover



Catalog Number DS7000RF

S S

Stainless Steel Fittings

Locknuts & Bushings



Eaton's Crouse-Hinds Stainless Steel Fittings deliver unbeatable corrosion protection where you need it, saving you time and money throughout the life of your facility.

Superior resistance to corrosion and heat, combined with unmatched strength, make stainless steel fittings a long term solution for even the most extreme environments.

Features:

- Self healing properties of stainless steel fittings help reduce the penetration of rust/corrosion and eliminate damage to the fitting
- Stainless steel fittings retain their strength in extreme heat and extreme cold conditions
- Fitting surface is easy to maintain and keep clean
- Easy cleaning capabilities make these fittings perfect for food processing and other hygienic areas where washdowns are common
- Superior strength and durability greatly reduce replacement of fittings. This will lower your total cost of ownership and increase your return on investment
- Stainless steel fittings do not require harsh environment-damaging cleaners to keep them looking like new
- Stainless Steel fittings are ideal for industrial MRO and OEM applications in food and beverage, pharmaceutical, petrochemical, waste water, salt water, and other corrosive environments.

Standard Materials:

- Fittings 316 stainless steel
- Conduit, nipples, couplings and elbows 316 stainless steel, 304 stainless steel
- Conduit hangers 316 stainless steel, 301 stainless steel

LOCKNUTS



11SS

Features:

- 316 Stainless Steel Locknuts can be used with conduit or NPS threaded pipe.
- Precision-machined threads allow for easy installation.
- Heavy stock thickness and specially designed tabs tighten securely and will not easily loosen even in the most severe applications.

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Threads Per Inch
1188	1/2"	1000	1000	2	14
12SS	3/4"	500	500	3	14
13SS	1"	500	500	5	111/2
14SS	11/4"	100	100	7	111/2
15SS	11/2"	100	100	10	111/2
16SST	2"	100	100	21	111/2

HEX HEAD REDUCING BUSHINGS



RBSS21

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Length	Hex Nut Size
RBSS21	3/4 - 1/2	100	100	15	0.95	1.20
RBSS31	1 - 1/2	100	100	21	1.07	1.40
RBSS32	1 - 3/4	100	100	17	1.07	1.40
RBSS51	11/2 - 1/2	50	50	70	1.50	2.05
RBSS52	11/2 - 3/4	50	50	68	1.50	2.05
RBSS53	11/2 - 1	50	50	61	1.50	2.05
RBSS61	2 - 1/2	25	25	81	1.30	2.42
RBSS62	2 - 3/4	25	25	81	1.42	2.50
RBSS63	2 - 1	25	25	81	1.32	2.43
RBSS65	2 - 11/2	25	25	68	1.42	2.50

Stainless Steel Fittings

Plugs, Clamps and U-Bolts

HEX HEAD PLUGS



PLG50SS

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Length	Hex Nut Size
PLG50SS	1/2"	100	100	11	1	0.93
PLG75SS	3/4"	100	100	16	1.03	1.17
PLG100SS	1"	100	100	25	1.16	1.51
PLG150SS	1 - 1/2"	50	50	58	1.62	2.1
PLG200SS	2"	50	50	100	1.56	2.6

BEAM CLAMPS







Features:

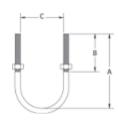
- This heavy-duty "electrician's" style beam clamp is cast in stainless for superior strength and corrosion resistance.
- Designed for use on I-beams, channels, and other structural members, this beam clamp provides firm fixturing without drilling
- Attachment holes in the back and bottom permit a wide variety of applications.

531SS

Cat. #	Trade Size	Unit Qty.	Std Pkg.	Wt. Lbs. Per 100	Α	В	С	D	E	F
531SST	1 ⁵ / ₁₆ "	50	50	25	1/4" - 20	5/ ₁₆ " - 18	7/8"	13/8"	1"	1 ⁵ / ₁₆ "
533SST	2"	25	25	80	3/8" - 16	1/ ₂ " - 13	13/16"	17/8"	1 ⁷ / ₈ "	2"
534SST	2 ¹ / ₄ "	25	25	148	1/2" - 13	5/ ₈ " - 11	13/16"	23/16"	2 ¹ / ₈ "	2 ¹ / ₄ "

U-BOLTS





UBM50SS

Cat. #	Trade Size	Unit Qty.	Std Pkg.	Wt. Lbs. Per 100	Α	В	С	Size & Pitch	Load Rtg (Lbs)
UBM50SS	1/2"	100	100	13	2.41"	1.50"	0.94"	5/16" - 18	950
UBM75SS	3/4"	100	100	14	2.73"	1.50"	1.15"	⁵ / ₁₆ " - 18	950
UBM100SS	1"	100	100	15	3.04"	1.50"	1.41"	⁵ / ₁₆ " - 18	950
UBM125SS	11/4"	50	50	16	3.16"	1.50"	1.76"	5/16" - 18	950
UBM150SS	11/2"	50	50	18	3.48"	1.50"	2.00"	⁵ / ₁₆ " - 18	950
UBM200SS	2"	50	50	30	4.30"	1.75"	2.49"	³/ ₈ " - 16	1250
UBM250SS	21/2"	50	50	34	4.80"	1.75"	2.99"	3/8" - 16	1250
UBM300SS	3"	50	50	38	5.36"	1.75"	3.61"	³/ ₈ " - 16	1250
UBM350SS	31/2"	50	50	40	5.80"	1.75"	4.11"	3/8" - 16	1250
UBM400SS	4"	50	50	45	6.50"	1.75"	4.61"	³/ ₈ " - 16	1250

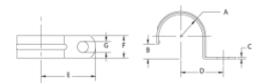
Crouse-Hinds

Straps

ONE HOLE STRAPS

Stainless Steel Fittings



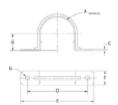


410SS

		Unit	Std	Wt. Lbs.							
Cat. #	Trade Size	Qty.	Pkg.	Per 100	Α	В	С	D	E	F	G
410SS	1/2"	400	400	4	0.420"	0.390"	0.075"	0.937"	1.375"	0.625"	0.250"
411SS	3/4"	200	200	5	0.525"	0.500"	0.090"	1.031"	1.562"	0.750"	0.250"
412SS	1"	100	100	7	0.655"	0.620"	0.090"	1.125"	1.812"	0.875"	0.312"
413SS	11/4"	50	50	10	0.830"	0.800"	0.100"	1.500"	2.000"	0.875"	0.375"
414SS	11/2"	50	50	14	0.950"	0.920"	0.125"	1.875"	2.500"	1.000"	0.437"
415SS	2"	25	25	20	1.185"	1.150"	0.125"	2.125"	2.750"	1.125"	0.562"
206SS	21/2"	25	25	42	1.437"	1.400"	0.150"	2.562"	3.312"	1.250"	0.562"
207SS	3"	10	10	51	1.750"	1.700"	0.150"	2.875"	3.625"	1.250"	0.562"
208SS	31/2"	10	10	70	2.000"	1.950"	0.180"	3.250"	4.000"	1.250"	0.562"
209SS	4"	10	10	78	2.250"	2.200"	0.180"	3.500"	4.250"	1.250"	0.562"

TWO HOLE STRAPS





496 2SS

Cat. #	Trade Size	Unit Qty.	Std Pkg.	Wt. Lbs. Per 100	Α	В	С	D	E	F	G
496 2SS	3/8"	400	400	2	0.35"	0.32"	.024030"	1.56"	2"	0.5"	0.188"
496 3SS	1/2"	200	200	2	0.42"	0.39"	.024030"	1.78"	2.25"	0.56"	0.188"
496 4SS	3/4"	200	200	3	0.52"	0.5"	.024030"	2.18"	2.62"	0.62"	0.188"
496 5SS	1"	100	100	4	0.65"	0.62"	.033038"	2.53"	3.2"	0.75"	0.25"
496 6SS	11/4"	50	50	6	0.83"	0.8"	.033038"	3.16"	4"	0.87"	0.25"
496 7SS	11/2"	50	50	9	0.95"	0.92"	.043050"	3.37"	4.2"	0.93"	0.25"
496 8SS	2"	50	50	12	1.18"	1.15"	.043050"	4.25"	5.12"	1"	0.375"
496 9SS	21/2"	25	25	16	1.43"	1.4"	.053060"	4.95"	5.87"	1"	0.375"
496 10SS	3"	25	25	20	1.75"	1.7"	.053060"	5.5"	6.5"	1"	0.375"
496 11SS	31/2"	25	25	29	2.00"	1.95"	.068075"	6.18"	7.12"	1"	0.437"
496 12SS	4"	25	25	32	2.25"	2.2"	.068075"	6.81"	7.75"	1"	0.437"

Clamps

Cat. # RAC50SS RAC75SS RAC100SS RAC125SS RAC150SS RAC200SS RAC250SS

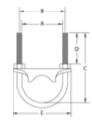
RAC300SS

RAC350SS

RAC400SS

RIGHT ANGLE CLAMPS





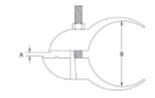
Features:

- Designed to fit pipe/rigid conduit as well as PVC-coated rigid conduit, right angle clamps firmly fix pipe to the flange of a structural member without drilling holes.
- Cast in CF8M(316) with 316SS U-bolt and nuts, these clamps are designed for both strength and corrosion resistance.

SS									
Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Α	В	С	D	E	
1/2"	50	50	34	0.94"	1.25"	2.41"	1.5"	2.0"	
3/4"	50	50	36	1.15"	1.46"	2.73"	1.5"	2.13"	
1"	50	50	44	1.41"	1.72"	3.04"	1.5"	2.63"	
11/4"	25	25	51	1.76"	2.07"	3.16"	1.5"	2.88"	
11/2"	25	25	61	2.00"	2.31"	3.48"	1.5"	3.37"	
2"	25	25	97	2.49"	2.87"	4.3"	1.75"	4.62"	
21/2"	25	25	125	2.99"	3.37"	4.8"	1.75"	4.62"	
3"	10	10	148	3.61"	3.99"	5.36"	1.75"	5.27"	

PARALLEL CLAMPS





Features:

4.49"

4.99"

4.11"

• Parallel Clamps are used to run pipe or conduit along the flange of I-beams or channels simply and easily without drilling holes.

1.75"

5.75"

• The 100% stainless (CF8M & 316SS) design offers superb corrosion resistance and strength.

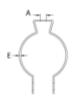
5.8"

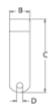
These clamps will fit both rigid conduit and PVC-Coated rigid conduit and are available in 3/4" and 1" trade sizes.

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Α	В	Overall Width
PARC75SS	3/4"	50	50	58	2.89"	1.38"	1.1
PARC100SS	1"	50	50	60	3.12"	1.38"	1.1

CONDUIT HANGERS







Stainless Steel 316

148

163

178

	Trade	Unit	Std	Wt. Lbs.					
Cat. #	Size	Qty.	Pkg.	Per 100	Α	В	С	D	E
0BSS316	1/2"	100	100	7	0.255"	0.75"	1.90"	0.275"	0.050"
1BSS316	3/4"	100	100	9	0.255"	0.875"	2.10"	0.275"	0.050"
2BSS316	1"	100	100	10	0.255"	0.875"	2.40"	0.275"	0.060"
3BSS316	11/4"	50	50	11	0.255"	0.875"	2.80"	0.275"	0.060"
4BSS316	11/2"	50	50	18	0.320"	1.00"	3.25"	0.275"	0.060"
5BSS316	2"	25	25	26	0.320"	1.25"	3.75"	0.275"	0.060"
6BSS316	21/2"	10	10	33	0.375"	1.125"	4.63"	0.313"	0.075"
7BSS316	3"	10	10	40	0.375"	1.187"	5.50"	0.313"	0.075"
0BCC316	/ "	10	10	40	0.375"	1 250"	6 25"	U 313"	0.075"

Stainless Steel 301







• • • • • • • • • • • • • • • • • • • •		Unit	Wt. Lbs.
Cat. #	Description	Qty.	Per 100
0BSS	3/8 and 1/2 RGD 1/2 EMT hanger with bolt	100	6
1BSS	3/4 RGD 3/4 EMT hanger with bolt	100	7
2BSS	1 RGD 1 EMT hanger with bolt	100	11
21/2BSS	11/4 EMT hanger with bolt	100	10
3BSS	11/4 RGD 11/2 EMT hanger with bolt	100	13
4BSS	11/2 RGD hanger with bolt	100	16
5BSS	2 RGD 2 EMT hanger with bolt	50	17
6BSS	21/2 RGD 21/2 EMT hanger with bolt	50	32
7BSS	3 RGD 3 EMT hanger with bolt	25	39
8BSS	31/2 RGD 31/2 EMT hanger with bolt	10	41
9BSS	4 RGD 4 EMT hanger with bolt	10	44

Elbows

CONDUIT



Stainless Steel Fittings





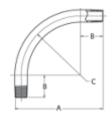
Features:

- Stainless Steel threaded conduit polished to a bright finish to further increase corrosion resistance and provide enhanced aesthetic appearance.
- Provided in 10' lengths with coupling attached and color coded thread protector for the opposite end.
- Custom sizes are also available

		Unit	Std	Wt. Lbs.					Length without	
Cat. #	Trade Size	Qty.	Pkg.	Per 100	Threads	ID	OD	Wall Thickness	Coupling	Est. Weight per Foot
RCOND50 304SS	1/2"	1	1	85	14	0.622"	0.84"	0.104"	9' 1111/4"	0.85
RCOND75 304SS	3/4"	1	1	113	14	0.824"	1.05"	0.107"	9' 111/4"	1.13
RCOND100 304SS	1"	1	1	168	111/2"	1.049"	1.31"	0.126"	9' 11"	1.68
RCOND125 304SS	11/4"	1	1	263	111/2"	1.380"	1.66"	0.140"	9' 11"	2.72
RCOND150 304SS	11/2"	1	1	272	111/2"	1.610"	1.90"	0.138"	9' 11"	2.72
RCOND200 304SS	2"	1	1	365	111/2"	2.067"	2.37"	0.146"	9' 11"	3.65
RCOND250 304SS	21/2"	1	1	5500	8	2.469"	2.87"	0.193"	9' 101/2	*
RCOND300 304SS	3"	1	1	7200	8	3.068"	3.5"	0.205"	9' 101/2	*
RCOND400 304SS	4"	1	1	10000	8	4.026"	4.5"	0.225"	9' 103/4	*
RCOND50 316SS	1/2"	1	1	85	14	0.622"	0.84"	0.104"	9' 111/4"	0.85
RCOND75 316SS	3/4"	1	1	113	14	0.824"	1.05"	0.107"	9' 111/4"	1.13
RCOND100 316SS	1"	1	1	168	111/2"	1.049"	1.31"	0.126"	9' 11"	1.68
RCOND125 316SS	11/4"	1	1	263	111/2"	1.380"	1.66"	0.140"	9' 11"	2.72
RCOND150 316SS	11/2"	1	1	272	111/2"	1.610"	1.90"	0.138"	9' 11"	2.72
RCOND200 316SS	2"	1	1	365	111/2"	2.067"	2.37"	0.146"	9' 11"	3.65
RCOND250 316SS	21/2"	1	1	5500	8	2.469"	2.87"	0.193"	9-10-1/2	*
RCOND300 316SS	3"	1	1	7200	8	3.068"	3.5"	0.205"	9-10-1/2	*
RCOND400 316SS	4"	1	1	10000	8	4.026"	4.5"	0.225"	9-10-3/4	*

STANDARD RADIUS ELBOWS









Features:

- Designed for use with stainless threaded rigid conduit.
- These stainless steel elbows are polished to a bright finish for increased corrosion resistance and improved appearance.

RLB5090 304SS

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Radius "C"	Offset "A"	Straight End
RLB5090 304SS	1/2"	1	1	76	4"	6.5"	2.12"
RLB7590 304SS	3/4"	1	1	109	4.5"	7.25"	2.75"
RLB10090 304SS	1"	1	1	188	5.75"	8.63"	2.88"
RLB12590 304SS	11/4"	1	1	310	7.5"	10.75"	3.25"
RLB15090 304SS	11/2"	1	1	422	8.25"	11.63"	3.38"
RLB20090 304SS	2"	1	1	611	9.5"	13.31"	3.81"
RLB25090 304SS	21/2"	1	1	611	10.5"	16.5"	5.75"
RLB30090 304SS	3"	1	1	611	13.0"	18.75"	5.79"
RLB40090 304SS	4"	1	1	611	16.0"	23.18"	7.96"
RLB5090 316SS	1/2"	1	1	76	4"	6.5"	2.12"
RLB7590 316SS	3/4"	1	1	109	4.5"	7.25"	2.75"
RLB10090 316SS	1"	1	1	188	5.75"	8.63"	2.88"
RLB12590 316SS	11/4"	1	1	310	7.5"	10.75"	3.25"
RLB15090 316SS	11/2"	1	1	422	8.25"	11.63"	3.38"
RLB20090 316SS	2"	1	1	611	9.5"	13.31"	3.81"
RLB25090 316SS	21/2"	1	1	611	10.5"	16.5"	5.75"
RLB30090 316SS	3"	1	1	611	13.0"	18.75"	5.79"
RLB40090 316SS	4"	1	1	611	16.0"	23.18"	7.96"

Nipples

CONDUIT NIPPLES





Features:

- Designed for use with stainless threaded rigid conduit.
- These nipples are polished to a bright finish for increased corrosion resistance and improved appearance.

 Unit Std.

100-000	NPL50200 304SS	;	։(Մ)			.	Unit	Std.	Wt. Lbs.
	00200 30431	o Unit	Std.	Wt. Lbs.	Cat. #	Trade Size	Qty.	Pkg.	Per 100
Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	NPL100800 316SS	1" X 8"L	1	1	97
					NPL1001000 316SS NPL1001200 316SS		1	1	135 152
NPL50CL 304SS NPL50200 304SS	1/2" X CLOSE 1/2" X 2"	1 1	1 1	5 12	NPL1001200 316SS NPL125CL 304SS	1" X 12"L 11/4" X CLOSE	1 1	1 1	152 20
NPL50200 304SS NPL50250 304SS	'/2" X 2" 1/2" X 21/2"L	1	1	12 14	NPL125CL 304SS NPL125200 304SS	11/4" X CLOSE 11/4" X 2"	1	1	20 25
NPL50250 30455 NPL50300 304SS	1/2" X 3"L	1	1	18	NPL125250 304SS NPL125250 304SS	1 1/4 X Z 1 1/4 " X 2 1/2 "L	1	1	25 34
NPL50350 304SS	1/2" X 31/2"L	1	1	21	NPL125300 304SS	11/4" X 3"L	i	1	43
NPL50400 304SS	1/2" X 4"L	1	1	24	NPL125350 304SS	1 ¹ / ₄ " X 3 ¹ / ₂ "L	1	1	51
NPL50500 304SS	1/2" X 5"L	1	1	31	NPL125400 304SS	11/4" X 4"L	1	1	61
NPL50600 304SS	1/2" X 6"L	1	1	38	NPL125500 304SS	11/4" X 5"L	1	1	81
NPL50800 304SS	1/2" X 8"L	1	1	51	NPL125600 304SS	11/4" X 6"L	1	1	96
NPL501000 304SS	1/2" X 10"L 1/2" X 12"I	1	1	66 79	NPL125800 304SS NPL1251000 304SS	1½4" X 8"L	1	1	132 200
NPL501200 304SS NPL50CL 316SS	1/2" X 12"L 1/2" X CLOSE	1 1	1 1	79 5	NPL1251000 304SS NPL1251200 304SS		1 1	1 1	200 201
NPL50CL 316SS NPL50200 316SS	1/2" X CLOSE 1/2" X 2"	1	1	5 12	NPL1251200 304SS NPL125CL 316SS	11/4" X 12"L 11/4" X CLOSE	1	1	201 20
NPL50200 316SS NPL50250 316SS	1/2" X 2 1/2" X 21/2"L	1	1	14	NPL125CL 316SS NPL125200 316SS	11/4" X CLUSE 11/4" X 2"	1	1	25 25
NPL50300 316SS	1/2" X 3"L	1	1	18	NPL125250 316SS	11/4" X 21/2"L	1	1	34
NPL50350 316SS	1/2" X 31/2"L	1	1	21	NPL125300 316SS	11/4" X 3"L	1	1	43
NPL50400 316SS	1/2" X 4"L	1	1	24	NPL125350 316SS	11/4" X 31/2"L	1	1	51
NPL50500 316SS	1/2" X 5"L	1	1	31	NPL125400 316SS	11/4" X 4"L	1	1	61
NPL50600 316SS	1/2" X 6"L	1	1	38	NPL125500 316SS	11/4" X 5"L	1	1	81
NPL50800 316SS NPL501000 316SS	¹/₂" X 8"L ¹/₃" X 10"I	1	1	51 66	NPL125600 316SS NPL125800 316SS	1½" X 6"L 1½" X 8"L	1	1 1	96 132
NPL501000 316SS NPL501200 316SS	¹/₂" X 10"L ¹/₂" X 12"L	1 1	1 1	66 79	NPL125800 316SS NPL1251000 316SS		1 1	1 1	132 200
NPL501200 316SS NPL75CL 304SS	'/2" X 12"L 3/4" X CLOSE	1	1	79 8	NPL1251000 316SS NPL1251200 316SS		1	1	200
NPL75CL 304SS NPL75200 304SS	3/4" X 2"	1	1	o 14	NPL150200 304SS	1½" X 2"	1	1	25
NPL75250 304SS	3/4" X 21/2"L	1	1	19	NPL150250 304SS	11/2" X 21/2"L	i	i	47
NPL75300 304SS	3/4" X 3"L	1	1	23	NPL150300 304SS	11/2" X 3"L	1	1	53
NPL75350 304SS	3/4" X 31/2"L	1	1	27	NPL150350 304SS	11/2" X 31/2"L	1	1	64
NPL75400 304SS	3/4" X 4"L	1	1	30	NPL150400 304SS	1½" X 4"L	1	1	75
NPL75500 304SS	3/4" X 5"L 3/4" X 6"L	1	1	41 50	NPL150500 304SS	1½" X 5"L	1	1	88
NPL75600 304SS NPL75800 304SS	³/ ₄ " X 6"L ³/ ₄ " X 8"L	1 1	1 1	50 68	NPL150600 304SS NPL150800 304SS	1½" X 6"L 1½" X 8"L	1 1	1 1	114 151
NPL75800 304SS NPL751000 304SS	%" X 8"L %4" X 10"L	1	1	68 83	NPL150800 304SS NPL1501000 304SS		1	1	176
NPL751000 304SS	³/ ₄ " X 10 L	1	1	103	NPL1501000 304SS		1	1	243
NPL75CL 316SS	3/4" X CLOSE	1	i	8	NPL150200 316SS	11/2" X 2"	1	1	25
NPL75200 316SS	3/4" X 2"	1	1	14	NPL150250 316SS	11/2" X 21/2"L	1	1	47
NPL75250 316SS	3/4" X 21/2"L	1	1	19	NPL150300 316SS	11/2" X 3"L	1	1	53
NPL75300 316SS	3/4" X 3"L	1	1	23	NPL150350 316SS	1½" X 3½"L	1	1	64
NPL75350 316SS	3/4" X 31/2"L	1	1	27	NPL150400 316SS	1½" X 4"L	1	1	75 88
NPL75400 316SS NPL75500 316SS	³/ ₄ " X 4"L ³/ ₄ " X 5"L	1 1	1 1	30 41	NPL150500 316SS NPL150600 316SS	1½" X 5"L 1½" X 6"L	1 1	1 1	88 114
NPL75600 316SS NPL75600 316SS	% X 5 L % X 6"L	1	1	50	NPL150800 316SS	1½ X 6 L 1½" X 8"L	1	1	151
NPL75800 316SS	3/4" X 8"L	1	1	68	NPL1501000 316SS		1	1	176
NPL751000 316SS	3/4" X 10"L	i	1	83	NPL1501200 316SS	1 ¹ / ₂ " X 12"L	1	1	243
NPL751200 316SS	3/4" X 12"L	1	1	103	NPL200200 304SS	2" X 2"	1	1	33
NPL100CL 304SS	1" X CLOSE	1	1	13	NPL200250 304SS	2" X 21/2" L	1	1	47
NPL100200 304SS	1" X 2"	1	1	23	NPL200300 304SS	2" X 3"L	1	1	60 80
NPL100250 304SS NPL100300 304SS	1" X 2½"L 1" X 3"I	1	1	26 31	NPL200350 304SS NPL200400 304SS	2" X 3½" L 2" X 4"I	1	1 1	80 100
NPL100300 304SS NPL100350 304SS	1" X 3"L 1" X 3½"L	1 1	1	31 41	NPL200400 304SS NPL200500 304SS	2" X 4"L 2" X 5"L	1	1 1	100 127
NPL100350 304SS NPL100400 304SS	1 X 3½ L 1" X 4"L	1	1	51	NPL200500 304SS NPL200600 304SS	2 X 5 L 2" X 6"L	1	1	152
NPL100500 304SS	1" X 5"L	1	1	62	NPL200800 304SS	2" X 8"L	1	1	204
NPL100600 304SS	1" X 6"L	1	1	72	NPL2001000 304SS	2" X 10"L	1	1	254
NPL100800 304SS	1" X 8"L	1	1	97	NPL2001200 304SS	2" X 12" L	1	1	305
NPL1001000 304SS	1" X 10"L	1	1	135	NPL200200 316SS	2" X 2"	1	1	33
NPL1001200 304SS	1" X 12"L 1" X CLOSE	1	1	152 13	NPL200250 316SS	2" X 2½"L	1	1	47 60
NPL100CL 316SS NPL100200 316SS	1" X CLOSE 1" X 2"	1 1	1 1	13 23	NPL200300 316SS NPL200350 316SS	2" X 3"L 2" X 3½"L	1 1	1 1	60 80
NPL100200 316SS NPL100250 316SS	1" X 2" 1" X 2½"L	1 1	1 1	23 26	NPL200350 316SS NPL200400 316SS	2" X 3½"L 2" X 4"L	1 1	1 1	80 100
NPL100250 316SS NPL100300 316SS	1 X 2½ L 1" X 3"L	1	1	26 31	NPL200400 316SS NPL200500 316SS	2" X 4"L 2" X 5"L	1	1	100 127
NPL100350 316SS	1" X 3½"L	1	1	41	NPL200600 316SS	2" X 6"L	1	1	152
NPL100400 316SS	1" X 4"L	1	1	51	NPL200800 316SS	2" X 8"L	1	1	204
NPL100500 316SS	1" X 5"L	1	1	62	NPL2001000 316SS	2" X 10"L	1	1	254
NPL100600 316SS	1" X 6"L	1	1	72	NPL2001200 316SS	2" X 12" L	1	1	305

Crouse-Hinds

Couplings

COUPLINGS









Features:

- Designed for use with stainless threaded rigid conduit.
- These stainless steel couplings are polished to a bright finish for increased corrosion resistance and improved appearance.

		Unit	Std.	Wt. Lbs.		
Cat. #	Trade Size	Qty.	Pkg.	Per 100	Length	Outside Dia.
RC50 304SS	1/2"	1	1	18	1.625"	1.01"
RC75 304SS	3/4"	1	1	26	1.650"	1.25"
RC100 304SS	1"	1	1	28	2.000"	1.53"
RC125 304SS	11/4"	1	1	41	2.040"	1.95"
RC150 304SS	11/2"	1	1	51	2.063"	2.16"
RC200 304SS	2"	1	1	69	2.125"	2.65"
RC250 304SS	21/2"	1	1	178	3.188"	3.25"
RC300 304SS	3"	1	1	229	3.313"	3.87"
RC400 304SS	4"	1	1	313	3.516"	4.88"
RC50 316SS	1/2"	1	1	18	1.625"	1.01"
RC75 316SS	3/4"	1	1	26	1.650"	1.25"
RC100 316SS	1"	1	1	28	2.000"	1.53"
RC125 316SS	11/4"	1	1	41	2.040"	1.95"
RC150 316SS	11/2"	1	1	51	2.063"	2.16"
RC200 316SS	2"	1	1	69	2.125"	2.65"
RC250 316SS	21/2"	1	1	178	3.188"	3.25"
RC300 316SS	3"	1	1	229	3.313"	3.87"
RC400 316SS	4"	1	1	313	3.516"	4.88"

3-PIECE COUPLINGS



191SS

Features:

- Designed to join and connect threaded ends of rigid conduit where neither length of conduit can be turned.
- These Stainless Steel Three piece couplings are polished to a bright finish for increased corrosion resistance and improved appearance.

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Overall Length	Major Nut Dia.	Major Body Dia.
191SS	3/ ₄ "	50	50	33	1.51"	1.51"	1.31"
192SS	1"	50	50	33	1.51"	1.66"	1.66"

Liquidtight Fittings

LIQUIDTIGHT FITTINGS



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Liquidtight Fittings

Applications:

- To terminate and seal liquidtight flexible metal conduit to oiltight, liquidtight, or raintight box or enclosure. Where superior corrosion resistance and/or strength is required.
- Typical applications include food processing plants, breweries, pulp and paper mills, dairies, waste water treatment facilities, etc.

Features:

- Made of strong, corrosion resistant 304 stainless steel for long dependable service
- Available in straight and 90 degree configurations, and $1/\!\!/_2$ " through 2" trade sizes to meet customer preference
- Tapered threaded male hub NPT
- · Liquidtight, raintight, oiltight
- · Suitable for wet locations
- · Long ferrule prevents pullout and tight bend conduit pop out
- Temp. Rating -40° to 85°C

Standard Materials:

- Body and Nut 304 Stainless Steel
- Ferrule Steel

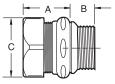
Certifications and Compliances:

- UL Listed liquidtight flexible metal conduit fittings are suitable for use in the following hazardous locations under NEC, Class I, Division 2; Class II, Division 1 and 2; and Class III, Division 1 and 2, and are suitable for grounding in sizes ³/₈" through 1¹/₄" under NEC.
- cULus Certified
- UL File No. E19189

Straight Connectors - Insulated



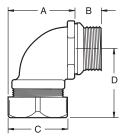




Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Α	В	С
LTB50SS	1/2"	25	25	21	11/4"	1/2"	11/4"
LTB75SS	3/4"	25	25	28	11/4"	1/2"	1 %16"
LTB100SS	1"	5	5	46	17/16"	5/8"	1 13/16"
LTB125SS	11/4"	5	5	57	11/2"	11/16"	21/4"
LTB150SS	11/2"	2	2	68	15/8"	3/4"	27/16"
LTB200SS	2"	1	1	103	13/4"	3/4"	3"

90 Degree Connectors - Insulated





LTB5090SS

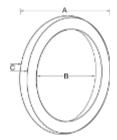
Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Α	В	С
LTB5090SS	1/2 "	25	25	30	1 7/ ₁₆ "	1/2"	11/4"
LTB7590SS	3/4"	10	10	43	15/8"	1/2"	1 9/ ₁₆ "
LTB10090SS	1"	10	10	73	25/16"	5/8"	1 13/16"
LTB12590SS	11/4"	5	5	96	23/8"	11/16"	21/4"
LTB15090SS	11/2"	2	2	104	311/16"	3/4"	27/16"
LTB20090SS	2"	1	1	143	313/16"	3/4"	3"

Sealing Gaskets and Locknuts

SEALING GASKET (Order Separately)

Sealing Gasket with Stainless Steel Retaining Ring (Order Separately)





To form a raintight seal between a conduit fitting and the outside of a box

Features:

Applications:

- Stainless Steel Retaining Ring
- Neoprene Rubber Gasket

Standard Materials:

- Ring 304 Stainless Steel
- Ferrule Steel

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Α	В	С
SG1SS	1/2"	50	50	1	11/8"	13/16"	3/16"
SG2SS	3/4"	25	25	2	13/8"	1 1/8"	3/16"
SG3SS	1"	25	25	2	15/8"	15/16"	3/16"
SG4SS	11/4"	5	5	3	2"	15/8"	3/16"
SG5SS	11/2"	5	5	3	21/4"	17/8"	3/16"
SG6SS	2"	5	5	3	23/4"	25/16"	3/16"

LOCKNUTS (Order Separately)



11SS

Features:

- 316 Stainless Steel Locknuts can be used with conduit or NPS threaded pipe.
- Precision-machined threads allow for easy installation.
- Heavy stock thickness and specially designed tabs tighten securely and will not easily loosen even in the most severe applications.

Cat. #	Trade Size	Unit Qty.	Std. Pkg.	Wt. Lbs. Per 100	Threads Per Inch
11SS	1/2"	1000	1000	2	14
12SS	3/4"	500	500	3	14
13SS	1"	500	500	5	1111/2
14SS	11/4"	100	100	7	11½
15SS	1 ½"	100	100	10	111/2
16SST	2"	100	100	21	111/2

Introduction to Hot Dip Galvanized Products

Hot Dip Galvanized Finish:

Hot dip galvanizing is a form of galvanization. It is the technology of coating by passing the product through a molten bath of zinc at high temperature. The process of hot dip galvanizing results in a metallurgical bond between zinc and steel with a series of distinct iron-zinc alloys. The hot dip zinc coating produces a much thicker, durable coating which prevents corrosion of the protected product by forming a physical barrier and by acting as a sacrificial anode if this barrier is damaged.

Application Process:

The product is skimmed (to remove surface oils), run through an acid wash, water washed, run through a dip fluxing solvent (to enhance the coating adhesion), dry preheated (typically 120°C-180°C), hot dip galvanized (typically 450°C-480°C), water cooled and then passivated.

Applications:

- To provide corrosion protection against road salt and other harsh environmental factors.
- To meet Department of Transportation, mass transit or other project specifications.
- For infrastructure projects, including bridges, subways, railways, and other modes of transportation. Many U.S. roads, bridges, and tollways are decades old and in need of repair. Many of these rework/rebuild projects require Hot Dip Galvanized products.
- For governmental use (many government projects, federal and/or state require the use of Hot Dipped Galvanized products).

Certifications and Compliances:

- Conforms to finish thickness per ASTM A123/A123M
- UL Standard 514B
- NEMA FB1

Form 5 Conduit Outlet Bodies, Covers & Gaskets

Applications:

Form 5 Malleable Iron Conduit Bodies are used in conduit systems to:

- · Act as pull outlets for conductors being installed
- Provide openings for making splices and taps in conductors
- Act as mounting outlets for lighting fixtures and wiring devices
- · Connect conduit sections
- Provide taps for branch conduit runs
- Make 90 degree bends in conduit runs
- Provide for access to conductors for maintenance and future system changes

Features:

- Interchangeable with Appleton Form 35 Conduit Bodies
- Built-in rollers on 11/4" to 4" C and LB bodies to facilitate wire pulling
- Smooth and rounded integral bushings for protection of wire insulation
- Solid neoprene gaskets may be converted to open type by pulling out perforated center section
- Stainless steel cover screws
- Domed sheet steel covers provide additional cubic capacity
- Integral gasket cover provides NEMA 4 rating

Certifications and Compliances:

- UL File No. E-15022
- UL Standard 514B
- cUL to CSA Standard C22.2 No. 18

Standard Materials:

- Bodies Malleable iron
- Gaskets Neoprene
- Covers sheet steel or malleable
- Cover screws stainless steel

Standard Finishes:

- Malleable iron electrogalvanized and aluminum acrylic paint
- Neoprene natural
- Sheet steel electrogalvanized
- Stainless steel natural

Options:

DescriptionHot dipped galvanized

Suffix HDG



Form 5

TYPE LB



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
LB50M HDG	1/2"	4.5	10	71	N/A
LB75M HDG	3/4"	7.5	10	97	3 #6 AWG
LB100M HDG	1"	12.5	10	143	3 #4 XHHW
LB125M HDG*	11/4"	32.0	5	287	3 #2 XHHW
LB150M HDG*	11/2"	35.3	5	331	3 #1/0 XHHW
LB200M HDG*	2"	73.0	1	534	3 #4/0 XHHW
LB250M HDG*	21/2"	142.0	1	1105	3 #300 MCM XHHW
LB300M HDG*	3"	173.0	1	1160	3 #400 MCM XHHW
LB350M HDG*	31/2"	292.0	1	1989	3 #500 MCM XHHW
LB400M HDG*	4"	324.0	1	2099	3 #500 MCM XHHW

 $^{^{*}1\%}$ – 4" LB and C Bodies supplied with built in rollers to facilitate wire pulling.

TYPE LL



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
LL50M HDG	1/2"	4.5	10	76	N/A
LL75M HDG	3/4"	7.5	10	95	3 #6 AWG
LL100M HDG	1"	12.5	10	138	3 #4 XHHW
LL125M HDG	11/4"	32.0	5	309	3 #2 XHHW
LL150M HDG	11/2"	33.0	5	332	3 #2 XHHW
LL200M HDG	2"	68.0	1	497	3 #4/0 XHHW
LL250M HDG	21/2"	142.0	1	1105	3 #300 MCM XHHW
LL300M HDG	3"	173.0	1	1437	3 #350 MCM XHHW
LL350M HDG	31/2"	292.0	1	2321	3 #350 MCM XHHW
LL400M HDG	4"	324.0	1	2431	3 #350 MCM XHHW

TYPE C



Cat.#	Size	Internal Vol. in Cu. In.	Unit	Wt. Lbs. Per 100	Max. # of Conductors
Cal.#	Size	Cu. In.	Qty.	Per 100	Conductors
C50M HDG	1/2"	4.5	10	98	N/A
C75M HDG	3/4"	7.5	10	118	3 #6 AWG
C100M HDG	1"	12.5	10	170	3 #4 XHHW
C125M HDG*	11/4"	35.0	5	309	3 #2 XHHW
C150M HDG*	11/2"	35.3	5	368	3 #1/0 XHHW
C200M HDG*	2"	75.0	1	552	3 #4/0 XHHW
C250M HDG*	21/2"	153.0	1	1216	3 #300 MCM XHHW
C300M HDG*	3"	181.0	1	1437	3 #300 MCM XHHW
C350M HDG*	31/2"	290.0	1	2210	3 #350 MCM XHHW
C400M HDG*	4"	320.0	1	2321	3 #350 MCM XHHW

^{*11/4&}quot; - 4" LB and C Bodies supplied with built in rollers to facilitate wire pulling.

TYPE LR



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
LR50M HDG	1/2"	4.5	10	71	N/A
LR75M HDG	3/4"	7.5	10	100	3 #6 AWG
LR100M HDG	1"	12.5	10	157	3 #4 XHHW
LR125M HDG	11/4"	32.0	5	332	3 #2 XHHW
LR150M HDG	11/2"	35.3	5	345	3 #2 XHHW
LR200M HDG	2"	68.0	1	626	3 #4/0 XHHW
LR250M HDG	21/2"	142.0	1	1105	3 #300 MCM XHHW
LR300M HDG	3"	173.0	1	1437	3 #350 MCM XHHW
LR350M HDG	31/2"	292.0	1	2321	3 #350 MCM XHHW
LR400M HDG	4"	324.0	1	2500	3 #350 MCM XHHW

TYPE T



		Internal Vol. in	Unit	Wt. Lbs.	Max. # of
Cat.#	Size	Cu. In.	Qty.	Per 100	Conductors
T50M HDG	1/2"	6.0	10	111	N/A
T75M HDG	3/4"	9.5	10	137	3 #6 AWG
T100M HDG	1"	15.0	10	196	3 #4 XHHW
T125M HDG	11/4"	33.0	5	332	3 #2 XHHW
T150M HDG	11/2"	36.0	5	368	3 #1 XHHW
T200M HDG	2"	76.0	1	663	3 #2/0 XHHW
T250M HDG	21/2"	142.0	1	1271	3 #300 MCM XHHW
T300M HDG	3"	173.0	1	1547	3 #300 MCM XHHW
T350M HDG	31/2"	292.0	1	2542	3 #350 MCM XHHW
T400M HDG	4"	324.0	1	2542	3 #350 MCM XHHW

Form 5

TYPE TB



		Internal Vol. in	Unit	Wt. Lbs.	Max. # of
Cat.#	Size	Cu. In.	Qty.	Per 100	Conductors
TB50M HDG	1/2"	6.0	10	88	N/A
TB75M HDG	3/4"	9.5	10	120	3 #6 AWG
TB100M HDG	1"	15.0	10	197	3 #6 AWG
TB125M HDG	1 1/4"	33.0	5	342	3 #6 AWG
TB150M HDG	1 1/2"	36.0	5	420	3 #4 XHHW
TB200M HDG	2"	76.0	1	691	3 #1/0 XHHW

CAST IRON COVERS



		Unit	Wt. Lbs.	
Cat. #	Size	Qty.	Per 100	
K50CM HDG	1/2"	50	23	
K75CM HDG	3/4"	50	31	
K100CM HDG	1"	25	41	
K125CM HDG	11/4" & 11/2"	20	91	
K200CM HDG	2"	5	208	
K250CM HDG	21/2" & 3"	5	358	
K350CM HDG	31/2" & 4"	5	550	

NEOPRENE GASKETS - PERFORATED CENTER



Cat. #	Size	Unit Qty.
GK50N	1/2"	100
GK75N	3/4"	100
GK100N	1"	50
GK125N	11/4" & 11/2"	25
GK200N	2"	25
GK250N	21/2" & 3"	25
GK350N	31/2" & 4"	25

TYPE X



Cat.#	Size	Internal Vol. in Cu. In.	Unit Qty.	Wt. Lbs. Per 100	Max. # of Conductors
X50M HDG	1/2"	6.0	10	139	N/A
X75M HDG	3/4"	9.5	10	172	3 #6 AWG
X100M HDG	1"	15.0	10	247	3 #4 XHHW
X125M HDG	11/4"	33.0	5	416	3 #2 XHHW
X150M HDG	11/2"	36.0	5	463	3 #1/0 XHHW
X200M HDG	2"	76.0	1	833	3 #2/0 XHHW

SHEET STEEL COVERS



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
K50S	1/2"	50	9	
K75S	3/4"	50	13	
K100S	1"	25	19	
K125S	11/4" & 11/2"	20	31	
K200S	2"	5	50	
K250S	21/2" & 3"	5	94	
K350S	31/2" & 4"	5	138	

INTEGRAL GASKET COVER - SHEET STEEL



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
K50SG	1/2"	50	14
K75SG	3/4"	50	16
K100SG	1"	25	46
K125SG	11/4" & 11/2"	20	62
K200SG	2"	5	70
K250SG	21/2" & 3"	5	190
K350SG	31/2" & 4"	5	340

Form 5

DIME	NSIONS	S (In Ind	ches):								
	Iron LB	•	,								
Size	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4	
A B	1.34 4.68	1.50 5.37	1.80 6.20	2.60 8.12	2.60 8.12	3.12 10.50	4.31 13.60	4.31 13.87	5.62 16.25	5.62 16.60	—в—
C	2.05	2.25	2.65	2.75	2.83	4.42	5.40	5.90	6.90	7.21	
											(C)
Form 5	Iron LL										в
Conduit	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4	_
A B	2.05 4.68	2.25 5.37	2.65 6.20	2.75 8.12	3.50 8.12	4.12 10.50	5.71 13.60	5.87 13.87	7.13 16.50	7.13 16.50	
С	1.37	1.70	1.90	2.75	2.83	3.31	3.90	4.75	6.81	7.19	
											(())
											· ·
Form 5	Iron LR										——в—
Conduit	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4	6
A B	2.05 4.68	2.25	2.65	2.75	3.50	4.12 10.50	5.71	5.87	6.10	6.95 16.25	1 -
C	1.37	5.37 1.70	6.20 1.90	8.12 2.75	8.12 2.83	3.31	13.60 3.90	13.87 4.75	6.25 5.62	5.62	1
											A (6)
Form 5	luon C										
Conduit	1/2	3/4	1	11/4	1 ½	2	21/2	3	31/2	4	= _
A	1.34	1.50	1.80	2.60	2.60	3.12	4.31	4.31	4.88	4.88	
B C	5.38 1.37	6.00 1.70	7.05 1.90	9.00 2.75	9.00 2.83	11.50 3.31	15.00 3.90	15.12 4.75	18.13 5.19	18.13 5.56	
		0		20	2.00	0.0.	0.00	0	00	0.00	(())
Form 5	Iron T										в
Conduit	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4	
A B	2.05 5.38	2.25 6.00	2.65 7.05	2.75 9.00	3.50 9.00	4.12 11.50	5.71 15.00	5.87 15.12	6.81 18.13	7.15 18.13	
C	1.34	1.50	1.80	2.60	2.60	3.12	4.31	4.31	5.19	5.56	
											(-()-)
Form 5	Iron TB										
Conduit	iron ib		3/4		1	11/4		11/2	2		
A B	1.	.34	1.50		1.80	2.60		2.60	3.1	2	
C	5. 2.	.38 .05	6.00 2.25		7.05 2.65	9.00 2.75		9.00 2.83	11. 4.4	50 2	- В
											(a()a)
	Туре Х										В
Conduit	1/2		3/4		1 0.50	11/4		11/2	2		
A B	5.	.79 .41	2.93 6.08		3.56 7.1	4.43 9.1		4.43 9.1	5.4 11.	75	
С	1.	.75	1.97		2.25	2.55		2.75	3.4	5	

Mogul Bodies, Covers and Gaskets

Applications:

Mogul bodies are installed in conduit systems to:

- Act as pull outlets for conductors that are stiff, due to large size or type of insulation
- Provide the longer openings needed when pulling large conductors
- Prevent sharp bends and kinks in large conductors (protects insulation during installation)
- Provide ample openings for splices and taps
- Provide access to wiring for maintenance and future system changes

Features:

Mogul bodies have:

- Long openings
- Provision for easy bends
- Taper tapped hubs with integral bushings
- Stainless steel cover screws
- · Covers are provided with integral gasket

Certifications and Compliances:

UL Standard: 514BFed. Spec.: W-C-586d

• CSA Standard: C22.2 No. 18

Standard Materials:

• Feraloy® iron alloy

Standard Finishes:

 Feraloy – electrogalvanized and aluminum acrylic paint

Options:

Description	Suffix
Material - copper-free aluminum	SA
Hot dipped galvanized	HDG

BC



Mogul Series

Size	Cat. #	
1	BC3 HDG	
11/4	BC4 HDG	
11/2	BC5 HDG	
2	BC6 HDG	
21/2	BC7 HDG	
3	BC8 HDG	
31/2	BC9 HDG	
4	BC10 HDG	

BLB†

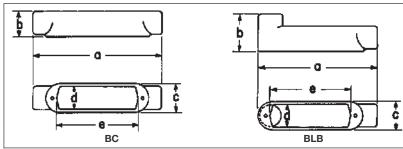


Mogul Series

3	
Size	Cat. #
1	BLB3 HDG
11/4	BLB4 HDG
11/2	BLB5 HDG
2	BLB6 HDG
21/2	BLB7 HDG
3	BLB8 HDG
31/2	BLB9 HDG
4	BLB10 HDG

Dimensions

In Inches:



Mogul	Series	BC
-------	--------	----

Size	1	11/4	11/2	2	21/2	3	31/2	4	
a	99/16	99/16	133/4	133/4	183/8	183/8	233/4	233/4	
b	1 ⁷ /8	25/16	29/16	31/8	3⁵/8	43/8	47/8	5 ³ / ₈	
С	23/16	23/16	3	3	41/4	41/4	51/4	51/4	
d	1 ⁷ /8	1 7/8	25/8	25/8	313/16	313/16	43/4	43/4	
е	6	6	10	10	15	15	20	20	

Mogul Series BLB

Size	1	11/4	11/2	2	21/2	3	31/2	4
a	819/32	819/32	1211/16	1211/16	1629/32	1629/32	221/8	221/8
a h	2 ²⁷ / ₃₂	39/32	35/8		5 ³ / ₃₂	5 ²⁷ / ₃₂	6 ¹ / ₂	ZZ /8
D				43/16				/ F1/
C _.	23/16	2 ³ / ₁₆	3	3	41/4	41/4	51/4	51/4
d	1 ⁷ / ₈	1 7/8	21/8	25/8	313/16	313/16	4¾	43/4
е	6	6	10	10	15	15	20	20



Mogul Series	
Size	Cat. #
1	BUB3 HDG
11/4	BUB4 HDG
11/2	BUB5 HDG
2	BUB6 HDG
21/2	BUB7 HDG
3	BUB8 HDG
31/2	BUB9 HDG
4	BUB10 HDG

BT



Mogul Series	
Size	Cat. #
1	BT3 HDG
11/4	BT4 HDG
11/2	BT5 HDG
2	BT6 HDG
21/2	BT7 HDG
3	BT8 HDG
31/2	BT9 HDG
4	BT10 HDG

Blank Covers



Feraloy® iron alloy (for all Mogul Series except BUBXL)

Size	With Round Neoprene Gasket Cat. #
1 or 11/4	BG48 HDG
1½ or 2	BG68 HDG
2½ or 3	BG88 HDG
31/2 or 4	BG98 HDG

BUBXL with Cover & Gasket



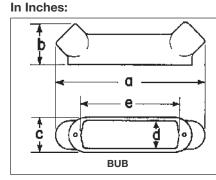
Extra Large Mogul Series Size Cat. # 2 **BUBXL6 HDG BUBXL8 HDG**

BUBXL Moguls

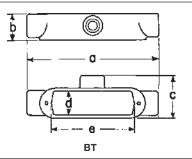
XL Mogul conduit bodies and covers are designed to ease installation, saving time and money while maintaining the quality you have come to expect from Eaton's Crouse-Hinds.

- Larger internal volume provides additional space for bending and pulling large conductors (complies with the 6x wirebending rule)
- New rollers improve the ability to pull larger conductors and protect the insulation when the wire is being pulled, greatly reducing cut cable incidents
- New cover design takes less time to install and can be used as a solid or with the center removed for more internal volume

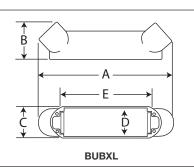
Dimensions



11/2



31/2



Mogul	Series	BUB
•		441

c	2 ³ / ₁₆	2 ³ / ₁₆	3	3	4 ¹ / ₄	4 ¹ / ₄	5¼	5¹/₄	
d	1 ⁷ / ₈	1 ⁷ / ₈	2 ⁵ / ₈	25/8	3 ¹³ / ₁₆	3 ¹³ / ₁₆	4¾	4¾	
e	6	6	10	10	15	15	20	20	
Mogul Series BT									

21/2

3

2

е	6	6	10	10	15	15	20	20	
Mogul	Series	вТ							
Size	1	11/4	11/2	2	21/2	3	31/2	4	
a	99/16	99/16	133/4	133/4	183/8	183/8	233/4	233/4	
b	1 ⁷ /8	25/16	29/16	31/8	35/8	43/8	47/8	5³/ ₈	
С	35/32	35/32	41/16	41/16	5 ¹⁹ / ₃₂	523/32	6 ⁷ / ₈	67/8	
d	17/8	17/8	25/8	25/8	313/16	313/16	43/4	43/4	
е	6	6	10	10	15	15	20	20	

Mogul Series BUBXL

Size	2	3	
a	15.28	22.85	
b	4.07	5.58	
С	3.00	4.25	
d	2.25	3.38	
е	12.25	15.25	

Suffix HDG

Hot Dip Galvanized Products

Three Piece Couplings, Clamps and Clampbacks

THREE PIECE CONDUIT COUPLINGS - MALLEABLE IRON

Applications:

 Used to join two lengths of threaded conduit. Couples conduit when conduit cannot be turned.

Standard Materials:

Heavy duty casting

Standard Finishes:

Zinc Plated

Options:

DescriptionSuffixMechanically galvanizedHDG

Malleable Iron (Concrete Tight)

UL File No. E-19189







	0.	Unit	Wt. Lbs.
Cat. #	Size	Qty.	Per 100
190M HDG	1/2"	25	23
191 HDG	3/4"	25	35
192 HDG	1"	10	60
193 HDG	11/4"	5	91
194 HDG	11/2"	5	167
195 HDG	2"	5	215
196 HDG	21/2"	2	430
197 HDG	3"	1	463
198 HDG	31/2"	1	655
199 HDG	4"	1	800
188 HDG†	5"	1	1200
189 HDG†	6"	1	2100
†Not UL Listed			

CLAMPS - MALLEABLE IRON

Applications:

• To support rigid conduit and IMC to mounting surface

Options:

DescriptionHot dipped galvanized

UL File No. E-184283







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
510 HDG	1/2"	100	6
511 HDG	3/4"	50	8
512 HDG	1"	50	13
513 HDG	11/4"	25	20
514 HDG	11/2"	20	30
515 HDG	2"	10	64
516 HDG*	21/2"	5	104
517 HDG*	3"	2	120
518 HDG*	31/2"	2	150
519 HDG*	4"	2	220
520 HDG†	5"	1	380
521 HDG†	6"	1	690

*Also for use with Thinwall (EMT) Conduit †Not UL Listed

CLAMPBACKS/SPACERS - MALLEABLE IRON

Applications:

To provide space between conduit and mounting surface

Options:

DescriptionHot dipped galvanized

Suffix HDG

UL File No. E-184283







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
CB1 HDG	1/2"	25	8	
CB2 HDG	3/4"	25	10	
CB3 HDG	1"	25	12	
CB4 HDG	11/4"	25	21	
CB5 HDG	11/2"	25	42	
CB6 HDG	2"	10	40	
CB7 HDG	21/2"	10	49	
CB8 HDG	3"	10	62	
CB9 HDG	31/2"	10	91	
CB10 HDG	4"	10	110	
CB11 HDG†	5"	5	135	
CB12 HDG†	6"	5	225	
+Not III Listed				

†Not UL Listed

Conduit Hubs

CONDUIT HUBS - MALLEABLE IRON Applications:

- Ideal for terminating electrical conduit through the walls of enclosures.
- Designed for use indoors or outdoors with rigid conduit and IMC, specific applications include food processing plants, distilleries, breweries, sewage disposal plants, chemical plants, paper processing mills and refineries.



- Male thread type
- Tapered female thread for rigid conduit and IMC
- Recessed O-ring gasket assures raintight and secure environmental connections
- Insulated throat provides smooth pulling surface
- Locking screw on the nut doubles as a grounding screw for added safety
- Complete size range from 1/2" to 6"
- · Hubs fit standard knockouts. No special tools required

Certifications and Compliances:

- Class I, Division 2
- Class II, Divisions 1 & 2
- Class III, Divisions 1 & 2
- UL Listed UL Standard 514B
- cUL Listed Certified by UL to CSA Standard C22.2 No. 18
- NEMA: FB-1
- Suitable for wet locations

Options:

DescriptionMechanically galvanized

Suffix HDG







Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
MHUB1 HDG	1/2 "	25	18
MHUB2 HDG	3/4"	25	25
MHUB3 HDG	1"	5	50
MHUB4 HDG	11/4"	5	25
MHUB5 HDG	11/2"	2	20
MHUB6 HDG	2"	1	10
MHUB7 HDG	21/2"	1	10
MHUB8 HDG	3"	1	5
MHUB9 HDG	31/2"	1	5
MHUB10 HDG	4"	1	2
MHUB11 HDG	5"	1	1
MHUB12 HDG	6"	1	1

FD Boxes and Covers

Applications:

Cast device boxes are installed to:

- · Accommodate wiring devices
- Act as pull boxes for conductors in a conduit system
- Provide openings to make splices and taps in conductors
- Use indoors and outdoors
- Use in applications where boxes may be subjected to rough use

Features:

- Green ground screw is located on the flange of the box for easy ground wire termination and is standard on boxes
- Suitable for use in wet locations when used with gasket and flat blank covers
- · Mounting lugs standard
- Tapered threaded hubs (NPT) with integral bushing
- Available as shallow (FS) or deep (FD) configuration
- Ample wiring room provided in either FS or FD configuration
- Wide selection of surface or flush covers available in three materials (sheet malleable, steel, aluminum)
- Malleable iron construction provides high tensile strength for strong, dependable service
- Covers are individually bagged and supplied with screws

Certifications and Compliances:

- cULus
- cCSAus

Standard Materials:

Malleable iron

Standard Finishes:

• Malleable iron - zinc electroplate

FD BOXES





FDM₁

Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FDM1 HDG	1/2"	2	278
FDM2 HDG	3/4"	2	273
FDM3 HDG	1"	2	284

FDC BOXES

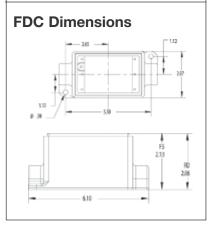




FDCM1

Cat. #	Trade Size	Unit Qty.	Wt. Lbs. Per 100
FDCM1 HDG	1/2"	2	313
FDCM2 HDG	3/4"	2	294
FDCM3 HDG	1"	2	306

FD Dimensions 9.30 1889 287 235 213 80 206



FS AND FD COVERS - MALLEABLE





FBCM1



SWCM1



RCM1

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
FBCM1 HDG	Malleable Iron Flat Blank Cover	25	56
SWCM1 HDG RCM1 HDG	Malleable Iron Switch Cover	25	63 55
RCM1 HDG	Malleable Iron Duplex Receptacle Cover	25	55

Crouse-Hinds

XJG Conduit Expansion Joints with Internal Grounding

Applications:

XJG expansion couplings are used with rigid metal conduit and IMC:

- Without the need for an external bonding jumper and clamps (up to 4")
- To couple together two (2) sections of conduit subject to longitudinal movement
- In long conduit runs to permit linear movement caused by thermal expansion and contraction
- On long conduit runs to prevent conduit from buckling and ensuing circuit failures
- Indoors or outdoors where conduit expansion occurs and there are wide temperature ranges
- · In conduit runs that cross structural joints
- In conduit runs to prevent damage to conduit supports such as in a building or on a bridge
- With optional redundant visible grounding strap



- UL Standard: 514B
- CSA Standard: C22.2 No. 18
- NEC Articles 250-77 and 300-7 (b)
- NEMA FB1
- Wet Locations

Standard Materials and Finishes:

Body

- Steel electrogalvanized
- Copper-free aluminum natural
- Feraloy® iron alloy electrogalvanized (5" + 6" only)

Reducer

- 1/2" through 1" Steel electrogalvanized
- 1½" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural

Gland Nut

- 1/2" through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural

Packing

• Teflon® (trademark of E.I. DuPont Co.)

Washer

- Steel electrogalvanized
- Copper-free aluminum natural

Gasket

Vellum

Bushing

- $\frac{1}{2}$ " through 1" Steel electrogalvanized
- 11/4" through 6" Feraloy® iron alloy electrogalvanized and aluminum paint
- Copper-free aluminum natural



Patented Design

Ordering Information

Conduit Size	Maximum Conduit Movement	Cat. #	Optional Bonding Jumper†	A Diameter	B Length	Bonding Jumper Length
1/2	4	XJG14 HDG	BJ14	1.75	6.75	20"
	8	XJG18 HDG	BJ18	1.75	10.75	30"
3/4	4	XJG24 HDG	BJ24	2.12	6.75	20"
	8	XJG28 HDG	BJ28	2.12	10.75	30"
1	4	XJG34 HDG	BJ34	2.43	7.25	20"
	8	XJG38 HDG	BJ38	2.43	11.25	30"
11/4	4	XJG44 HDG	BJ44	3.19	7.56	24"
	8	XJG48 HDG	BJ48	3.19	11.56	30"
11/2	4	XJG54 HDG	BJ54	3.68	7.87	24"
	8	XJG58 HDG	BJ58	3.68	11.87	30"
2	4	XJG64 HDG	BJ64	4.75	8.25	24"
	8	XJG68 HDG	BJ68	4.75	12.25	30"
21/2	4	XJG74 HDG	BJ74	4.87	9.31	24"
	8	XJG78 HDG	BJ78	4.87	13.31	36"
3	4	XJG84 HDG	BJ84	5.37	10.00	30"
	8	XJG88 HDG	BJ88	5.37	14.00	36"
31/2	4	XJG94 HDG	BJ94	6.62	9.81	30"
	8	XJG98 HDG	BJ98	6.62	13.81	36"
4	4	XJG104 HDG	BJ104	6.62	9.81	30"
	8	XJG108 HDG	BJ108	6.62	13.81	36"
5	8	XJ128 HDG‡	_	7.64	15.50	_
6	8	XJ148 HDG‡	_	9.56	16.00	_

†XJG expansion couplings use a metallic bushing and ground springs to create a high integrity internal ground connection. External ground straps offer a redundant ground path and easy visible indication of ground. ‡XJ128 and XJ148 are not internally grounded. A pair of 36" bonding jumpers are provided with fitting.

Suffix

HDG

Ground Springs

- Phosphor bronze electrogalvanized **Ground Strap**
- Braided tinned copper

U-Bolts

• Malleable iron - electrogalvanized

Options:

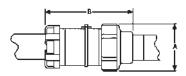
Description

Available in copper-free aluminum Not available on 5" and 6" sizes Hot dipped galvanized Available with redundant† ground strap for visible indication of grounding – order separately (BJ Series)

Size Ranges:

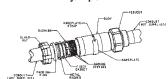
- 1/2" through 6" conduit size
- 4" and 8" maximum conduit movement

Dimensions In Inches:





XJG shown with optional bonding iumper



Crouse-Hinds

XD Expansion/Deflection Coupling

Applications:

XD couplings can be installed indoors, outdoors, buried underground, or embedded in concrete in nonhazardous areas. XD's are used with standard rigid conduit or PVC rigid conduit. (PVC requires rigid metal conduit nipples and rigid metal-to-PVC conduit adapters.) XD's provide a flexible and watertight connection for protection of conduit wiring systems from damage due to movement.

Typical applications include:

- Underground conduit feeder runs
- Runs between sections of concrete subject to relative movement
- · Runs between fixed structures
- · Conduit entrances in high-rise buildings
- · Marinas, docks, piers

Features:

- XD couplings accommodate the following movements without collapsing or fracturing the conduit, and damaging the wires it contains:
 - 1. Axial expansion or contraction up to 3/4"
 - 2. Angular misalignment of the axes of the coupled conduit runs in any direction to 30°
 - 3. Parallel misalignment of the axes of coupled conduit runs in any direction to 3/41
- Inner sleeve maintains constant I.D. in any position and provides a smooth insulated wireway for protection of wire insulation
- Watertight flexible neoprene outer jacket is corrosion resistant and protects the grounding strap and the attachment points of the hubs
- Tinned copper flexible braid grounding straps assure grounding continuity
- Stainless steel jacket clamps for strength and corrosion resistance
- Standard tapered electrical threads fit standard rigid conduit
- · Integral hub bushing protects insulation of conductors

Certifications and Compliances:

• UL Standard: 514B

Standard Materials:

- Hubs Feraloy® iron alloy
- Outer jacket molded neoprene
- · Jacket clamps stainless steel
- Inner sleeve molded plastic
- Grounding straps tinned copper flexible braid

Standard Finishes:

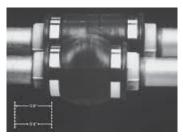
- Feralov electrogalvanized
- Neoprene natural (black)
- Molded plastic natural (brown)

Options:

Description Hot dipped galvanized Suffix HDG

Size Ranges:

• 1" to 6" (Smaller sizes can be obtained by using reducing bushings)



1. Axial expansion/contraction.



2. Angular misalignment.

XD **Ordering Information**

Hub Size	Cat. #	Hub Size	Cat. #
1	XD3 HDG	3	XD8 HDG
11/4	XD4 HDG	31/2	XD9 HDG
11/2	XD5 HDG	4	XD010 HDG
2	XD6 HDG	5	XD012 HDG
21/2	XD7 HDG	6	XD014 HDG

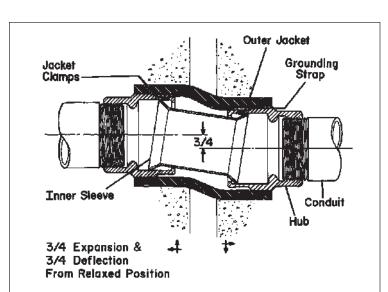


3. Parallel misalignment.

Dimensions In Inches:

Hub		
Size	а	b
1	7	315/16
11/4	7 ³ / ₈	41/4
11/2	71/4	41/2
2	71/4	415/16
21/2	71/2	55/16
3	75/8	515/16
31/2	73/4	61/2
4	77/8	615/16
4 5 6	73/4	8
6	83/8	9





W-Series Junction Boxes

Applications:

Junction boxes, designed for hazardous and non-hazardous locations, are used in a variety of industries to perform the following functions:

- As a pull box
- To provide enclosures for splices and taps
- As a mounting box for multi-device control stations
- For housing apparatus, instruments, and other devices

Considerations for Selection:

- Environmental location the physical location of the junction box will call for proper construction of the box to meet National Electrical Code requirements and will affect the material and finish needed to meet weather and corrosive conditions, if present.
- Number and size of conductors combined with the function to be performed (i.e., splicing, pull box), determines the amount of space needed, and therefore, the required physical dimensions of the box.
- Conduit layout determines the number, size, and location of the conduit openings in the box. It will also determine the type of mounting required (i.e., flush or surface positioning of the box).
- Flexibility required if changes in the electrical system are anticipated, the box chosen should be easily adaptable, either by construction or size to the future system.

Options and Accessories:

A wide variety of options and accessories for special application are available for the various junction box families. These can be selected once the type of junction box has been determined. These options are shown on the individual pages. Some of the options available include:

- Special covers
- Hinged covers
- · Materials and finishes
- Equipment mounting plates
- Conduit or device openings
- Corro-free[™] epoxy powder coat information available on request

Quick Selector Chart

Junction Boxes	Environmental Capability/Type Designation	Size Range† L, W, D Inside	Max. Conduit Opening Size	Mtg.	Cover Type	Cover Material
WAB	Raintight/Type 3, 4 Dust-tight/Type 12	4 x 4 x 2 to 72 x 30 x 16	5	Surface	Unflanged	Steel
WCB	Raintight/Type 3, Watertight/Type 4, Dust-tight/Type 12	4 x 4 x 2 to 72 x 30 x 16	5	Surface	Overlapping	Cast iron
WJB	Raintight/Type 3, Watertight/Type 4	4 x 4 x 3 to 72 x 30 x 16	6	Surface	Flanged	Steel
WJBF	Raintight/Type 3, Watertight/Type 4	4 x 4 x 4 to 72 x 30 x 16	6	Flush	External flanged recessed sidewalk	Steel (checkered)
WEB	Raintight/Type 3	4 x 4 x 3 to 36 x 36 x 12	6	Flush	Internal Flanged	Steel

[†]Length and width are inside dimensions. Depth is inside dimension without cover.

Drilled and Tapped Conduit Openings or Slip Holes:

All W-Series cast-iron junction boxes may be ordered with drilled and tapped conduit openings or slip holes - subject to minimum spacing limitations.

To order a box from the factory with conduit openings, consult factory.

WJBF Junction Boxes

Weatherproof Watertight Raintight NEMA 3, 4, 5 Cl. II, Groups E, F, G Cl. III

Thickness (in)

Applications:

WJBF boxes are primarily designed for surface mounting. WJBF heavy duty junction boxes are installed in conduit systems to:

- Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- · Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical equipment

Features:

- Covers are suitable for vehicular traffic (H20 loading)
- Neoprene gasket cemented to cover
- Wide range of drilled and tapped conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads may be drilled and tapped for 1/4" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6, for larger sizes consult factory

Certifications and Compliances:

- Weatherproof
- Watertight
- NEMA 3, 4, 5
- NEMA 250
- CEC:

Class II, Division 1, Groups E, F, G Class III Encl. 3, 4, 5

• H20 Vehicle Load Rating*

*Self certify to H20 vehicle load rating equivalent to 16,000 lbs. on cover center.

Standard Materials:

- Iron alloy body
- Heavy-gauge steel (checkered) cover, mounting straps
- Neoprene gaskets
- Stainless steel cover screws

Standard Finishes:

 Iron alloy and heavy-gauge steel – hotdip galvanized

Options:

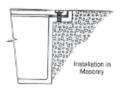
Description
Suffix
Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory





Length

(in)



Depth

(in)

Width

(in)

Ordering Information:

Cat #

Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WJBF040404	1/4	4	4	4
WJBF060404	1/4	6	4	4
WJBF060604	1/4	6	6	4
WJBF060606	1/4	6	6	6
WJBF080604	1/4	8	6	4
WJBF080606	1/4	8	6	6
WJBF080804	1/4	8	8	4
WJBF080806	1/4	8	8	6
WJBF080808	1/4	8	8	8
WJBF100806	1/4	10	8	6
WJBF100808	1/4	10	8	8
WJBF101006	1/4	10	10	6
WJBF101008	1/4	10	10	8
WJBF120606	1/4	12	6	6
WJBF120806	1/4	12	8	6
WJBF120808	1/4	12	8	8
WJBF120810	5/ ₁₆	12	8	10
WJBF120010 WJBF121206	1/4	12	12	6
WJBF121208	1/4	12	12	8
WJBF121200 WJBF121212	5/ ₁₆	12	12	12
WJBF121212 WJBF121218	⁵ / ₁₆	12	12	18
WJBF121216 WJBF140806	¹ / ₄	14	8	6
WJBF140600 WJBF141410	⁵ / ₁₆	14	14	10
WJBF141410 WJBF161206	7/16 1/ ₄	16	12	6
WJBF161206 WJBF161208	1/4	16	12	
WJBF161208 WJBF161606	1/4	16	12 16	8 6
	1/4			
WJBF180806		18	8	6
WJBF180808 WJBF181006	1/ ₄ 5/ ₁₆	18 18	8 10	8 6
WJBF181206 WJBF181208	⁵ / ₁₆ ⁵ / ₁₆	18 18	12 12	6 8
WJBF181210	716 3/8	18	12	10
WJBF181210 WJBF181212	⁵ / ₁₆	18	12	12
WJBF181212 WJBF181218	³ / ₈	18	12	18
	78 3/8			
WJBF181806 WJBF181808	7/8 3/ ₈	18 18	18 18	6 8
WJBF181812	³ / ₈	18	18	12
WJBF181818	78 3/8	18	18	18
WJBF161616 WJBF241208	78 3/8	24	12	8
WJBF241210 WJBF241212	³ / ₈	24	12	12
WJBF241212 WJBF241808	78 3/8	24	18	8
WJBF241810	^{7/8}	24	18	10
WJBF241812 WJBF241818	3/ ₈ 3/ ₈	24 24	18 18	12 18
			18 24	
WJBF242412	3/ ₈	24	24	12
WJBF242418 WJBF242424	3/ ₈	24	24 24	18 24
	3/ ₈	24		
WJBF302412 WJBF302418	3/ ₈	30	24	12
	3/ ₈	30	24	18 18
WJBF362418	3/ ₈	36	24	
WJBF362424	3/8	36	24	24

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"

WJB Junction Boxes

Weatherproof Watertight Raintight NEMA 3, 4, 5 Cl. II, Groups E, F, G Cl. III

Applications:

WJB boxes are primarily designed for surface mounting. WJB heavy duty junction boxes are installed in conduit systems to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical equipment

Features:

- Covers are suitable for vehicular traffic (H20 loading)
- Neoprene cover gasket
- Wide range of drilled and tapped conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads may be drilled and tapped for ¹/₄" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6, for larger sizes consult factory

Certifications and Compliances:

- Weatherproof
- Watertight
- NEMA 3, 4, 5
- NEMA 250
- CEC:

Class II, E, F, G Class III Encl. 3, 4, 5

Standard Materials:

- Iron alloy body
- Heavy-gauge steel cover and mounting straps
- Neoprene gaskets
- Stainless steel cover screws

Standard Finishes:

 Iron alloy and heavy-gauge steel – hotdip galvanized

Options:

Description Suffix
Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"



Ordering Information:



Cat. #	Wall Thickness (in.)	Length (in.)	Width (in.)	Depth (in.)
WJB040403	1/4	4	4	3
WJB040404	1/4	4	4	4
WJB060404	1/4	6	4	4
WJB060604	1/4	6	6	4
WJB060606	1/4	6	6	6
WJB080604	1/4	8	6	4
WJB080606	1/4	8	6	6
WJB080804	1/4	8	8	4
WJB080806	1/4	8	8	6
WJB080808	1/4	8	8	8
WJB100806	1/4	10	8	6
WJB100808	1/4	10	8	8
WJB100006	1/4	10	10	
				6
WJB101008	1/4	10	10	8
WJB120606	1/4	12	6	6
WJB120806	1/4	12	8	6
WJB120808	1/4	12	8	8
WJB120810	1/4	12	8	10
WJB121206	5/16	12	12	6
WJB121208	5/16	12	12	8
WJB121212	5/16	12	12	12
WJB121218	5/16	12	12	18
WJB140806	5/16	14	8	6
WJB141410	5/16	14	14	10
WJB161206	5/16	16	12	6
WJB161208	5/16	16	12	8
WJB161606	5/16	16	16	6
WJB180806	5/16	18	8	6
WJB180808	5/16	18	8	8
WJB181006	5/16	18	10	6
WJB181206	5/16	18	12	6
WJB181208	5/16	18	12	8
WJB181210	5/16	18	12	10
WJB181210 WJB181212	5/ ₁₆	18	12	12
WJB181212 WJB181218	3/8	18	12	18
WJB181806	^{7/8} ³ / ₈	18	18	6
WJB181808	3/ ₈	18	18	8
WJB181812	3/8	18	18	12
WJB181818	3/8	18	18	18
WJB241208	3/8	24	12	8
WJB241212	3/8	24	12	12
WJB241808	3/8	24	18	8
WJB241810	3/8	24	18	10
WJB241812	3/8	24	18	12
WJB241818	9/16	24	18	18
WJB242412	9/16	24	24	12
WJB242418	9/16	24	24	18
WJB242424	9/16	24	24	24
WJB302412	9/16	30	24	12
WJB302418	9/16	30	24	18
WJB362418	9/16	36	24	18
WJB362424	9/16	36	24	24

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Dust-tight Weatherproof NEMA 3, 4, 12

WAB Junction Boxes

Applications:

Where a heavy duty dustproof, weatherproof enclosure is desired, WAB boxes are installed in conduit system to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- Wide range of drilled and tapped and slip hole conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads available blind tapped for ¹/₄" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6; for larger sizes consult factory

Certifications and Compliances:

- Dust-tight
- Weatherproof
- NEMA 3, 4, 12
- NEMA 250

Standard Materials:

- Iron alloy body
- Heavy-gauge steel cover
- Neoprene gaskets
- · Stainless steel cover screws
- Steel mounting straps

Standard Finishes:

Iron alloy and heavy gauge steel – hot dip galvanized

Options:

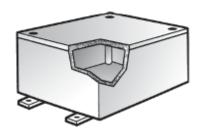
Description

Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"





Ordering Information:

Ordering in	Wall	Length	Width	Depth
Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WAB040402	5/32	4	4	2
WAB040403	³ / ₁₆	4	4	3
WAB040404	1/4	4	4	4
WAB050503	1/4	5	5	3
WAB050504	1/4	5	5	4
WAB060403	1/4	6	4	3
WAB060404	7/32	6	4	4
WAB060603	1/4	6	6	3
WAB060604	3/16	6	6	4
WAB060606	9/32	6	6	6
WAB080403	5/16	8	4	3
WAB080604	7/32	8	6	4
WAB080606	5/16	8	6	6
WAB080804	5/16	8	8	4
WAB080806	5/16	8	8	6
WAB080808	5/16	8	8	8
WAB090604	⁵ / ₁₆	9	6	4
WAB100604	1/4	10	6	4
WAB100804	1/4	10	8	4
WAB100806	9/32	10	8	6
WAB101006	1/4	10	10	6
WAB120604	9/32	12	6	4
WAB120606	9/32	12	6	6
WAB120806	9/32	12	8	6
WAB120808	3/8	12	8	8
WAB121204	9/32	12	12	4
WAB121206	9/32	12	12	6
WAB121208	9/32	12	12	8
WAB160606	1/4	16	6	6
WAB161208	5/16	16	12	8
WAB181206	5/16	18	12	6
WAB181208	5/16	18	12	8
WAB181210	3/8	18	12	10
WAB181806	3/8	18	18	6
WAB181812	⁷ / ₁₆	18	18	12
WAB241212*	7/16	24	12	12
WAB242408*	11/32	24	24	8

*NEMA 3 only. For NEMA 4 in these sizes, use WCB Larger sizes available up to 72" x 30" x 16" - Consult Factory

WCB Junction Boxes

Dust-tight Weatherproof Watertight Raintight NEMA 3, 4, 12

Applications:

Where a heavy duty dust-tight, weatherproof, raintight, or watertight enclosure is desired, WCB boxes are installed in conduit systems to:

- Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- · Overlapping cover sheds environment
- Wide range of drilled and tapped and slip hole conduit entrance sizes and locations permits maximum flexibility of use in conduit system
- Internal equipment mounting pads available blind tapped for 1/4" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6; for larger sizes consult factory

Certifications and Compliances:

- Dust-tight
- Weatherproof
- Raintight
- Watertight
- NEMA 3, 4, 12
- NEMA 250

Standard Materials:

- Iron alloy cover and body
- Neoprene gaskets
- Stainless steel cover screws
- Steel mounting straps

Standard Finishes:

• Iron alloy – hot dip galvanized

Options:

Description

Suffix

Factory installed mounting plate
Drilled and tapped conduit holes and
slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"





Ordering Information:

	Wall	Length	Width	Depth
Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WCB040402	5/32	4	4	2
WCB040403	3/16	4	4	3
WCB040404	1/4	4	4	4
WCB050503	1/4	5	5	3
WCB050504	1/4	5	5	4
WCB060403	1/4	6	4	3
WCB060404	7/32	6	4	4
WCB060603	1/4	6	6	3
WCB060604	3/16	6	6	4
WCB060606	9/32	6	6	6
WCB080403	5/16	8	4	3
WCB080604	⁷ / ₃₂	8	6	4
WCB080606	5/16	8	6	6
WCB080804	5/16	8	8	4
WCB080806	5/16	8	8	6
WCB080808	5/16	8	8	8
WCB090604	5/16	9	6	4
WCB100604	1/4	10	6	4
WCB100804	1/4	10	8	4
WCB100806	9/32	10	8	6
WCB101006	1/4	10	10	6
WCB120604	9/32	12	6	4
WCB120606	9/32	12	6	6
WCB120806	9/32	12	8	6
WCB120808	3/8	12	8	8
WCB121204	9/32	12	12	4
WCB121206	9/32	12	12	6
WCB121208	9/32	12	12	8
WCB160606	1/4	16	6	6
WCB161208	5/16	16	12	8
WCB181206	5/16	18	12	6
WCB181208	5/16	18	12	8
WCB181210	3/8	18	12	10
WCB181806	3/8	18	18	6
WCB181812	7/16	18	18	12
WCB241212	7/16	24	12	12
WCB242408	11/32	24	24	8

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Dust-tight Raintight NEMA₃

WEB Junction Boxes

Applications:

WEB Junction Boxes are installed:

- Where a heavy duty, dust-tight or raintight enclosure is desired
- To act as pull box for conductors
- To provide openings and space for making splices and taps in conductors
- To provide for branch conduit runs
- To provide access to conductors for maintenance and future system changes
- To enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- Internal equipment mounting pads
- Stainless steel cover screws
- Internal ground screw

Certifications and Compliances:

- NEMA 250
- NEMA 3

Standard Materials:

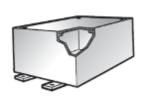
- Iron alloy body, hot dip galvanized
- Heavy-gauge steel cover, hot dip galvanized
- Stainless steel cover screws
- Neoprene gaskets

Options:

Description Suffix All boxes are available with optional

MP

mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory





Ordering Information:

	Wall	Length	Width	Depth
Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WEB040403	7/32	4	4	3
WEB040404	1/4	4	4	4
WEB060604	9/32	6	6	4
WEB060606	1/4	6	6	6
WEB080804	9/32	8	8	4
WEB080806	1/4	8	8	6
WEB121206	9/32	12	12	6
WEB160606	9/32	16	6	6
WEB160806	1/4	16	8	6
WEB180808	5/16	18	8	8
WEB240606	9/32	24	6	6
WEB240808	5/16	24	8	8
WEB241010	3/8	24	10	10
WEB241210	⁵ / ₁₆	24	12	10
WEB241212	5/16	24	12	12
WEB241812	3/8	24	18	12
WEB361212	3/8	36	12	12
WEB361812	3/8	36	18	12
WEB362412	7/16	36	24	12
WEB363612	⁷ / ₁₆	36	36	12

Thin Wall Conduit Fittings (For EMT Conduit)

Set Screw Type Fittings - Product of the USA

PRODUCT OF THE USA FITTINGS

Applications:

Product of the USA conduit fittings are used:

- To join EMT to a box or enclosure
- To couple two ends of EMT conduit

Features:

- All connectors available with or without insulated throat
- Hex surfaces on fitting body and compression nut for easy wrenching
- Couplings utilize a ridge center stop for easy identification of adequate conduit sealing within the coupling
- Set screw connectors and couplings utilize a #2 combination head screw for secure installation
- Thick, steel conduit locknut provides a strong, secure installation
- · Made in the USA

Certifications and Compliances:

- cULus Listed
- Set screw connectors & couplings concrete tight when tapped

Standard Materials and Finishes:

- 1/2" 2" Steel
- 21/2" 4" Malleable Iron
- Zinc electroplated

Straight Connectors - Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
1450US	1/2"	50	10
1451US	3/4"	25	14
1452US	1"	20	23
1453US	11/4"	5	40
1454US	11/2"	5	52
1455US	2"	20	80
1456US	21/2"	6	142
1457US	3"	6	183
1458US	31/2"	3	250
1459US	4"	3	283

Straight Connectors - Non-Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
450SUS	1/2"	50	10	
451US	3/4"	25	14	
452US	1"	20	23	
453US	11/4"	5	40	
454US	11/2"	5	52	
455US	2"	20	80	
456US	21/2"	6	142	
457US	3"	6	183	
458US	31/2"	3	250	
459US	4"	3	283	

Couplings

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
460US	1/2"	50	10	
461US	3/4"	25	15	
462US	1"	10	24	
463US	11/4"	5	44	
464US	11/2"	5	68	
465US	2"	20	90	
466US	21/2"	5	158	
467US	3"	3	217	
468US	31/2"	2	250	
469US	4"	2	283	

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Thin Wall Conduit Fittings (For EMT Conduit)

Compression Type Fittings - Product of the USA

PRODUCT OF THE USA FITTINGS

Applications:

Product of the USA conduit fittings are used:

- To join EMT to a box or enclosure
- To couple two ends of EMT conduit

Features:

- · All connectors available with or without insulated throat
- Hex surfaces on fitting body and compression nut for easy wrenching
- Couplings utilize a ridge center stop for easy identification of adequate conduit sealing within the coupling
- Set screw connectors and couplings utilize a #2 combination head screw for secure installation
- Thick, steel conduit locknut provides a strong, secure installation
- Made in the USA

Certifications and Compliances:

- cULus Listed
- Compression connectors & couplings concrete tight

Standard Materials and Finishes:

- 1/2" 2" Steel
- 21/2" 4" Malleable Iron
- Zinc electroplated

Connector - Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
1650US	1/2"	50	8
1651US	3/4"	25	12
1652US	1"	20	19
1653US	11/4"	5	30
1654US	11/2"	5	46
1655US	2"	5	55
1656US	21/2"	5	242
1657US	3"	3	307
1658US	31/2"	3	390
1659US	4"	2	492

Connector - Non-Insulated

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
650SUS	1/2"	50	8	
651SUS	3/4"	25	12	
652US	1"	20	19	
653US	11/4"	5	30	
654US	11/2"	5	46	
655US	2"	5	55	
656US	21/2"	5	242	
657US	3"	3	307	
658US	31/2"	3	390	
659US	4"	2	492	

Couplings

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
660SUS	1/2"	50	8	
661SUS	3/4"	25	13	
662US	1"	20	19	
663US	11/4"	5	30	
664US	11/2"	5	46	
665US	2"	5	60	
666US	21/2"	5	360	
667US	3"	3	405	
668US	31/2"	2	545	
669US	4"	2	635	

Thin Wall Conduit Fittings (For EMT Conduit)

Compression Type Fittings - Product of the USA - Raintight

PRODUCT OF THE USA FITTINGS

Applications:

Product of the USA conduit fittings are used:

- To join EMT to a box or enclosure in raintight environments
- To prevent water seepage into conduit, box, or enclosure

Features:

- Flat surface on gland nut provides smooth, flat surface for easy wrenching
- Integral gasketed compression ring secures and seals for reliable installation
- Gasket on male threads of box connector seals installation for raintight connection between the box and the connector
- Angled teeth on locknut for secure bite into enclosure
- Extruded locknut with shoulder provides more threads for more secure installation
- Concrete tight
- · Product of the USA

Certifications and Compliances:

- cULus Listed
- Concrete tight
- Raintight

Standard Materials and Finishes:

- Steel
- Zinc electroplated

Connector - Non-Insulated - Raintight

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
650RTUS	1/2"	50	8
651RTUS	3/4"	25	12
652RTUS	1"	20	19
653RTUS	11/4"	5	30
654RTUS	11/2"	5	46
655RTUS	2"	5	55
656RTUS	21/2"	1	242
657RTUS	3"	1	307
658RTUS	31/2"	1	390
659RTUS	4"	1	492

Couplings - Raintight

UL File No. E-22132







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
660RTUS	1/2"	50	8
661RTUS	3/4"	25	13
662RTUS	1"	20	19
663RTUS	11/4"	5	30
664RTUS	11/2"	5	46
665RTUS	2"	5	60
666RTUS	21/2"	1	360
667RTUS	3"	1	405
668RTUS	31/2"	1	545
669RTUS	4"	1	635

Thin Wall Conduit Fittings (For EMT Conduit)

Product of the USA Conduit Fittings

STRAPS – STEEL GALVANIZED PRODUCT OF THE USA

Two Hole

UL File No. E-184283







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
497 1US	1/2"	250	2	
497 2US	3/4"	150	3	
497 3US	1"	100	5	
497 4US	11/4"	50	8	
497 5US	1 1/2"	50	13	
497 6US	2"	25	14	

CLAMPS "SNAP-ON" – STEEL PRODUCT OF THE USA

Applications:

• To support EMT conduit to mounting surface

UL File No. E-184283







Cat. # Size Qty. Per 100	
200US ½" 100 5	
201US 3/4" 100 6	
202US 1" 100 6	
203US* 1 ¹ / ₄ " 50 13	
204US* 1½" 25 17	
205US* 2" 25 20	
206US* 2 ¹ / ₂ " 25 64	
207US * 3" 25 71	
208US* 3½" 25 120	
209US* 4" 10 130	

^{*}Not UL Listed or cUL Listed

NAILING STRAPS – STAMPED STEEL PRODUCT OF THE USA

Applications:

Product of the USA Nailing Straps are used:

To secure EMT conduit

Standard Materials:

• Pre-galvanized stamped steel



	Conduit Sizes					
Cat. #	EMT	Unit Qty.	Wt. Lbs. Per 100			
NSS1US	1/2"	100	2	_		
NSS2US	3/4"	100	2			
NSSSHS	1"	100	3			

THREE PIECE CONDUIT COUPLINGS - STEEL PRODUCT OF THE USA

Applications:

Product of the USA conduit fittings are used:

• To join two lengths of threaded conduit. Couples conduit when conduit cannot be turned.

Standard Materials:

Heavy duty casting

Standard Finishes:

Zinc Plated

Steel

UL File No. E-19189





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
190US	1/2"	20	36	
191US	3/4"	20	32	
192US	1"	5	55	
193US	11/4"	5	119	
194US	11/2"	5	140	
195US	2"	5	199	

CONDUIT LOCKNUTS - STEEL PRODUCT OF THE USA

UL File No. E-19189





Cat. #	Size	Qty.	Wt. Lbs. Per 100	
11USA	1/2"	200	1	
12USA	3/4"	100	2	
13USA	1"	50	4	
14USA	11/4"	50	7	
15USA	11/2"	25	8	
16USA	2"	25	9	

STRAPS – STEEL GALVANIZED PRODUCT OF THE USA

Applications:

• Used to secure rigid conduit or IMC to mounting surface

Two Hole

UL File No. E-184283







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
496 3US	1/2"	150	2
496 4US	3/4"	100	3
496 5US	1"	50	7
496 6US	11/4"	50	8
496 7US	11/2"	50	10
496 8US	2"	25	15
496 9US	21/2"	25	19
496 10US	3"	25	23
496 11US	31/2"	25	93
496 12US	4"	10	108

CLAMPS "SNAP-ON" - STEEL PRODUCT OF THE USA

Applications:

• To support rigid conduit and IMC to mounting surface



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
410US	1/2"	100	5	
411US	3/4"	50	6	
412US	1"	50	11	
413US	11/4"	50	13	
414US	11/2"	25	20	
415US	2"	25	22	

BEAM CLAMPS/INSULATOR SUPPORTS – STEEL - PRODUCT OF THE USA



Cat. #	Base Size	Jaw Opening	Tapped Holes	Unit Qty.	Wt. Lbs. Per 100	
529SUS	3/4"	5/。"	1/4" - 20	300	13	_

Rigid/Intermediate Grade Conduit Fittings

Product of the USA Conduit Fittings

TYPE CPR COMPRESSION FITTINGS PRODUCT OF THE USA

Applications:

Use type CPR Product of the USA compression fittings for:

- Both IMC and metallic rigid conduit.
- New work in poured concrete.
- · Maintenance, repairs and alterations.
- · Connections at panels and boxes.
- · New, altered or damaged stubups.
- Applicable locations where field threading is impractical or undesirable.

Features and Benefits:

- UL Listed for use with IMC as well as metallic rigid conduit.
- Unequalled versatility for the installer.
- Unique gland ring design tightens up in fewer turns; provides outstanding pull-out strength; saves time and adds confidence.
- Advanced, thoughtful design and premium materials team up for an installation you can be proud of.

Certifications and Compliances:

• UL 514B Fittings for Conduit and Outlet Boxes

Standard Materials:

- Bodies steel
- Compression nuts steel
- Compression rings zinc plated steel
- Locknuts zinc plated steel
- Insuliners glass-reinforced polypropylene











Straight Connectors - Insulated

UL File No. E-19189





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
CPR11US	1/2"	25	13	
CPR12US	3/4"	20	20	
CPR13US	1"	5	36	
CPR14US	11/4"	5	48	
CPR15US	11/2"	5	70	
CPR16US	2"	5	100	

Straight Connectors - Non-Insulated

UL File No. E-19189





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
CPR1US	1/2"	25	13	
CPR2US	3/4"	20	20	
CPR3US	1"	5	36	
CPR4US	11/4"	5	48	
CPR5US	11/2"	5	70	
CPR6US	2"	5	100	

Couplings

UL File No. E-19189





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
CPR21US	1/2"	20	16	
CPR22US	3/4"	20	24	
CPR23US	1"	5	48	
CPR24US	11/4"	5	64	
CPR25US	11/2"	5	110	
CPR26US	2"	3	140	

CABLE AND CONDUIT HANGERS – STEEL PRODUCT OF THE USA

Certifications and Compliances:

• UL Listed

With Bolt UL File No. 184283







Cat. #	Conduit Size EMT	Conduit Sizes Rigid	Unit Qty.	Wt. Lbs. Per 100
0BUS	1/2"	3/8" & 1/2"	100	6
1BUS	3/4"	3/4"	100	6
2BUS	1"	1"	100	8
2 1/2BUS	11/4"	_	100	10
3BUS	11/2"	11/4"	100	11
4BUS	_	11/2"	100	16
5BUS	2"	2"	50	23
6BUS	21/2"	21/2"	50	29
7BUS	3"	3"	25	31
8BUS	31/2"	31/2"	10	38
9BUS	4"	4	10	38

Liquidtight Conduit Fittings

Product of the USA Conduit Fittings

LIQUIDTIGHT FITTINGS PRODUCT OF THE USA

Applications:

Typical applications for Product of the USA liquidtight conduit fittings include the wiring of machine tools, motors, transformers, food processing equipment, robotics, air conditioning units, illuminated store front signs and billboards, etc. The flexible metallic conduit and fittings protect conductors from mechanical damage due to vibration and movement, and seal out cutting oils, coolants, water, dust, etc. Applications such as these can be found in, but are not limited to, industries such as:

- Machine tool manufacturers
- Electric power generating plants
- · Waste treatment facilities
- · Paint manufacturing facilities
- Automobile manufacturing facilities
- · Aerospace industries
- Breweries
- Food processing plants
- Dairies
- Pulp and paper mills
- Petroleum refineries
- · Chemical and petrochemical plants

Certifications and Compliances:

- UL Listed liquidtight flexible metal conduit fittings are suitable for use in the following hazardous locations under NEC, Class I, Division 2; Class II, Division 1 and 2; and Class III, Division 1 and 2, and are suitable for grounding in sizes ½" through 1¼" under NEC
- UL Listed
- UL File No. E-19189

Standard Materials:

- Body Straight: 1/2" through 1" steel, or 11/4" through 2" Feraloy® iron alloy
- Gland nut steel
- Ferrule steel
- Gland nut sealing ring polyethylene
- Sealing gasket thermoplastic elastomer
- Locknut steel

Standard Finishes:

- Steel, Feraloy® iron alloy zinc electroplate
- Thermoplastic elastomer natural

Straight Connectors - Non-Insulated

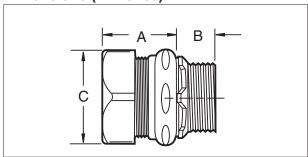
UL File No. E-19189





Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
LT50 US	1/2"	25	13
LT75 US	3/4"	20	20
LT100 US	1"	5	36
LT125 US	11/4"	5	48
LT150 US	11/2"	5	70
LT200 US	2"	5	100

Dimensions (in inches):



Trade Size	Α	В	С
1/2"	15/16"	19/32"	11/4"
3/4"	1 5/ ₁₆ "	19/32"	11/2"
1"	1 7/ ₁₆ "	13/16"	13/4"
11/4"	1%16"	13/16"	21/4"
11/2"	1 13/16"	13/16"	21/2"
2"	13/4"	7/8"	3"

CG Series Color-Coded Cord Grips

Product of the USA Conduit Fittings

Applications:

CG Series color-coded grips with neoprene bushings are for use with portable cords, including S, SO, STO, ST, SJ, SJT, SJTO, and SVO. CG cord grips are installed to:

- Provide a means for passing a cord into an enclosure
- Form a watertight seal for cord
- Provide pullout protection for cord, ensuring a secure connection

Features:

- Neoprene bushings are color coded by cable diameter for quick and easy identification of proper cord grip
- Rugged construction protects cord from damage
- Compact design permits close spacing of fittings on panel applications
- Tightening one nut creates watertight seal
- Male tapered thread NPT

Certifications and Compliances:

- UL Standard: 514B
- UL File No. E-23223
- CSA Standard: C22.2 No. 18
- Suitable for NEMA 4 enclosures and other wet locations
- Suitable for use in Class I, Div. 2 hazardous locations when installed in accordance with NEC 501.10(B)(2)

Standard Materials:

- Body 1/2" through 1" steel
- Nut steel
- Bushing neoprene

Standard Finishes:

- Body (steel) electrogalvanized
- Nut (steel) electrogalvanized

Straight Connector

Steel Cat. #	Trade Size	Color	Cable Range Min.	Cable Range Max.	Unit Qty.	Wt. Lbs. Per 100
CG50 250US	1/2"	Red	0.15	0.25	25	10
CG50 350US	1/2"	White	0.25	0.35	25	10
CG50 450US	1/2"	Blue	0.35	0.45	25	10
CG50 560US	1/2"	Green	0.45	0.56	25	10
CG50 650US	1/2"	Brown	0.55	0.65	25	10
CG75 250US	3/4"	Red	0.15	0.25	10	14
CG75 350US	3/4"	White	0.25	0.35	10	14
CG75 450US	3/4"	Blue	0.35	0.45	10	14
CG75 560US	3/4"	Green	0.45	0.56	10	14
CG75 650US	3/4"	Brown	0.55	0.65	10	14
CG75 750US	3/4"	Yellow	0.65	0.75	10	14
CG75 850US	3/4"	Purple	0.75	0.85	10	14
CG100 560US	1"	Green	0.45	0.56	5	20
CG100 650US	1"	Brown	0.55	0.65	5	20
CG100 750US	1"	Yellow	0.65	0.75	5	20
CG100 850US	1"	Purple	0.75	0.85	5	20
CG100 950US	1"	Gray	0.85	0.95	5	20
CC100 1050HS	4."	Dlook	0.05	1.05	5	20



Commercial Products

Description	Page No.		
Outlet Boxes & Covers			
Outlet Box Technical Data	see pages 304-306		
4" Steel Square Boxes and Covers	see pages 307-316		
411/16" Steel Square Boxes and Covers	see pages 317-321		
Steel Utility Boxes and Covers	see page 322		
Steel Switch Boxes and Covers	see pages 323-330		
Steel Gang Boxes and Covers	see pages 331-332		
Steel Masonry Boxes	see pages 333-334		
Steel Octagon Boxes & Pans	see pages 335-338		
Steel Octagon Covers	see pages 339-440		
Steel Octagon Concrete Boxes	see pages 341-342		
Ceiling Fan Boxes	see pages 343-344		
Outlet Box Accessories	see pages 345-346		
PVC Switch and Outlet Boxes	see pages 347-350		
Non-metallic Ceiling and Fan Boxes	see pages 351-353		
PRE-formance™	see pages 354-374		

Switch & Outlet Boxes - Technical Data

Article 314 of the National Electrical Code® (NEC®) covers the installation and use of boxes. The article includes table references that guide the electrician in the selection of the proper size box necessary to safely accommodate electrical service requirements. The box capacity table is reproduced in part from NEC as a quick reference and guide. The NEC should be consulted for complete details.

Eaton's Crouse-Hinds products are produced in accordance with the requirements of UL-514-A, UL-514-B, UL-514-C and are classified for fire resistance according to the standard, Fire Tests of Building Construction and Materials, ANSI/UL 263, ASTM E 119 and NFPA 251. This listing is based on products when used in a fire rated (2 HR) wall or ceiling. Eaton's Crouse-Hinds steel boxes are listed with U.L. File #E23156 and Eaton's Crouse-Hinds non-metallic boxes are listed with U.L. File #E102328 and U.L. (2 HR. fire rated) File #R9933.

Eaton's Crouse-Hinds switch and outlet boxes comply with the requirements of NEMA standard OS-1, NFPA 70-370 and Federal Spec. #W-J-800E.

Under File #E23156, Eaton's Crouse-Hinds concentric and "Moon" KO style boxes, the following is stated "Suitable for bonding without any additional bonding means around concentric (or Eccentric) knockouts where used in circuits above or below 250V."

Wall thickness on all steel boxes is 0.0625" with minimum galvanization thickness of G60.

Table 314.16(A) Metal Boxes

Min. Maximum Nur			um Numb	Number of Conductors (arranged by AWG size)				
Box Dimension, Inches	Cu. In.							
		No.	No.	No.	No.	No.	No.	No.
Trade Size or Type	Cap.	18	16	14	12	10	8	6
4 x 11/4 Round or Octagonal	12.5	8	7	6	5	5	4	2
4 x 11/2 Round or Octagonal	15.5	10	8	7	6	6	5	3
4 x 21/8 Round or Octagonal	21.5	14	12	10	9	8	7	4
4 x 11/4 Square	18.0	12	10	9	8	7	6	3
4 x 1½ Square	21.0	14	12	10	9	8	7	4
4 x 21/8 Square	30.3	20	17	15	13	12	10	6
411/16 x 11/4 Square	25.5	17	14	12	11	10	8	5
4 ¹¹ / ₁₆ x 2 ¹ / ₂ Square	29.5	19	16	14	13	11	9	5
411/16 x 21/8 Square	42.0	28	24	21	18	16	14	8
3 x 2 x 1½ Device	7.5	5	4	3	3	3	2	1
3 x 2 x 2 Device	10.0	6	5	5	4	4	3	2
3 x 2 x 21/4 Device	10.5	7	6	5	4	4	3	2
3 x 2 x 2½ Device	12.5	8	7	6	5	5	4	2
3 x 2 x 2 ³ / ₄ Device	14.0	9	8	7	6	5	4	2
3 x 2 x 3½ Device	18.0	12	10	9	8	7	6	3
4 x 2½ x 1½ Device	10.3	6	5	5	4	4	3	2
4 x 2 ¹ / ₈ x 1 ⁷ / ₈ Device	13.0	8	7	6	5	5	4	2
4 x 2 ¹ / ₈ x 2 ¹ / ₈ Device	14.5	9	8	7	6	5	4	2
3 ³ / ₄ x 2 x 2 ¹ / ₂ Masonry Box/Gang	14.0	9	8	7	6	5	4	2
3 ³ / ₄ x 2 x 3 ¹ / ₂ Masonry Box/Gang	21.0	14	12	10	9	8	7	4
FS-Minimum Internal Depth 13/4 Single Cover Gang	13.5	9	7	6	6	5	4	2
FD-Minimum Internal Depth 23/8 Single Cover Gang	18.0	12	10	9	8	7	6	3
FS-Minimum Internal Depth 13/4 Single Cover Gang	18.0	12	10	9	8	7	6	3
FD-Minimum Internal Depth 23/8 Multiple Cover Gang	24.0	16	13	12	10	9	8	4

Table 314.16(B) Volume Required per Conductor

rioquirou por ocitameter				
Free Space Within Box for Each Conductor				
1.5 cubic inches				
1.75 cubic inches				
2 cubic inches				
2.25 cubic inches				
2.5 cubic inches				
3 cubic inches				
5 cubic inches				

For SI units: one cubic inch = 16.4 cm^3 .

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Switch & Outlet Boxes – Technical Data

EATON'S CROUSE-HINDS OUTLET BOXES & COVERS

Eaton's Crouse-Hinds has assembled one of the most complete outlet box products lines in the business. We've been leading in quality and selection for decades and throughout the Eaton's Crouse-Hinds Steel Outlet Box offering, you will find innovative products and solutions that save labor, cut material costs and increase productivity.

We have a complete offering of:

- 4" and 411/16" square drawn and welded boxes
- 4" square and 411/16", switch, masonry, utility, outlet, ceiling, fan and gangable boxes
- Drawn boxes available with concentric knockouts, combining 1/2" and 3/4" knockout
- · Complete line of covers, partitions, extension rings and accessories
- Uni-Mount™ covers
- PRE-formance[™] products
- Pre-assembled boxes which includes Uni-Mount cover attached to 4" square box
- Pre-fabricated boxes which includes Uni-Mount cover attached to 4" square box with ground screw and lead installed
- Fire alarm boxes and covers

Standard Materials - Steel Covers, Outlet, and Switch Boxes:

- Steel boxes and covers are made of .0625 inch thick pre-galvanized sheet steel
- Handy box covers are made of .030 inch thick galvanized sheet steel

BRACKETS USED ON EATON'S CROUSE-HINDS BOXES



"F" BRACKET

Mounts on face of stud. See catalog number for set back. For wood studs.



"D" BRACKET

Side mount bracket with set up hook & guide tabs for automatic positioning. Standard bracket set back is 5/8". For wood and metal studs.



"S" BRACKET

Side mount brackets with set up hook for wood or metal studs. Standard bracket set back is 5/8".



"C" BRACKET

Ceiling box bracket for wood studs.



"VS" BRACKET

Plain flat mounted bracket for use Side bracket for use with wood or Side bracket with set up hooks for Positions box on either side of a



"VMS" BRACKET

to position on face of stud.



"VP" BRACKET

wood studs.



"SSB" BRACKET

on wood or metal studs. No set metal studs. Provides set up tabs steel stud.



"MSB" BRACKET

Position box on either side of steel stud.



CLAMPS USED ON EATON'S CROUSE-HINDS BOXES

Cat. # TP900



MC-BX FOR ARMORED & METAL CLAD (MCI) CABLE



NM-1



NM-2 FOR NONMETALLIC CABLE



NM-4

MOUNTING EARS

Cat. # TP901



ONE SCREW EAR

Cat. # TP902



TWO SCREW EAR

Mounting ears are available on many of our switch boxes. They are set forward in $\frac{1}{100}$ the "old way" position. Two-screw ears are generally used on shallow boxes and one-screw ears on deep boxes.

EATON'S CROUSE-HINDS BOX ENTRY DETAILS



1/2" Conduit KO



3/4" Conduit KO



1" Conduit KO



Concentric 1/2" and 3/4" KO Eccentric 1/2" and 3/4" KO





Knockouts and Pry-outs

Eaton's Crouse-Hinds conduit KOs have standard trade size dimensions. KOs are uniform and true for attachment of cable or conduit connectors. Pry-outs for cable entrance are slotted - a twist with screwdriver removes them. KOs and pry-outs are precision stamped to permit easy removal, but remain sufficiently strong and sturdy when not removed.

Eaton's Crouse-Hinds 4" square drawn boxes feature a 1/2" and 3/4" "inverted" concentric KO - easily removed. Our 4" square welded feature our 1/2" eccentric KO which also features easy removability of both the 1/2" and 3/4" KOs.

Note: These KOs are suitable for bonding without bonding jumpers around concentric (or eccentric) knockouts where used in circuits above or below 250V.

Steel Square Boxes

4" SQUARE OUTLET BOXES AND COVERS



Applications:

- For use with conduit
- Available in red for fire alarm applications

Features:

- Ideal for exposed work applications, providing an easy method for the installation of electrical devices (switches, receptacles, fans, lights, etc.)
- Raised ground screw location in the welded boxes saves time in installation
- Available with pre-installed ground screws and pigtails for increased labor savings
- Knockouts are suitable for use without a bonding jumper in circuits above or below 250 volts
- · Available in two depths for differing cubic capacity requirements
- Welded or drawn construction to match customer preference
- Extensive cover offering to meet various customer applications and needs

Certifications and Compliances:

• UL Listed

4" SQUARE OUTLET BOXES - 18.0 CUBIC INCH CAPACITY

11/4" DEEP - FOR CONDUIT UL LISTED



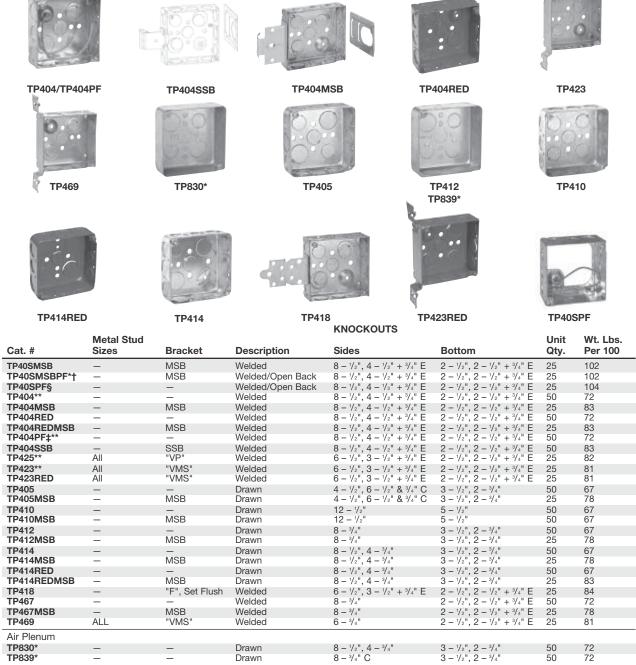
TP408

Cat. #	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP408	_	Drawn	12 – 1/2"	5 - 1/2"	50	61

4" SQUARE OUTLET BOXES - 22.0 CUBIC INCH CAPACITY (WELDED)† 21.0 CUBIC INCH CAPACITY (DRAWN)

11/2" DEEP - FOR CONDUIT

UL LISTED



^{*}For Air Plenum (No Mounting Holes) - Not UL Listed

^{**}cUL Listed

[†]All welded 4" square outlet boxes have a raised dimple for ground screw

[‡]TP404PF includes ground screw with pigtail lead §TP40SPF supplied with factory installed pigtail leads and TP472 flat back cover

Steel Square Boxes

4" SQUARE OUTLET BOXES - 22.0 CUBIC INCH CAPACITY

1½" DEEP FOR NONMETALLIC CABLE – CLAMPS IN EACH END UL LISTED









TP444

TP444MSB

TP446

KNOCKOUTS

Cat. #	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP444	_	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	50	77
TP444MSB	MSB	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	25	81
TP444SSB	SSB	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	50	88
TP446	"F", Set Flush	Welded	4 - Cable, 2 - 1/2", 1 - 1/2" & 3/4" E	1 - 1/2"	25	88
TP449	"VMS"	Welded	4 - Cable, 2 - 1/2", 1 - 1/2" & 3/4" E	1 - 1/2"	25	85

4" SQUARE OUTLET BOXES - 22.0 CUBIC INCH CAPACITY

11/2" DEEP FOR ARMORED & METAL CLAD (MCI) CABLE – CLAMPS IN EACH END UL LISTED









TP454

TP454MSB

TP456

TP459

			KNOCKOUTS			
Cat. #	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP459	"VMS"	Welded	4 - Cable, 2 - ½", 1 - ½" & ¾" E	1 - 1/2"	25	89
TP454*	_	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	50	81
TP454MSB	MSB	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	25	91
TP454PF†	_	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	50	81
TP454SSB*	SSB	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	25	82
TP456*	"F", Set Flush	Welded	4 - Cable, 2 - 1/2", 1 - 1/2" & 3/4" E	1 - 1/2"	25	92
TP456PF+	"F" Set Flush	Welded	4 - Cable 2 - 1/3" 1 - 1/3" & 3/4" F	1 - 1/0"	25	92

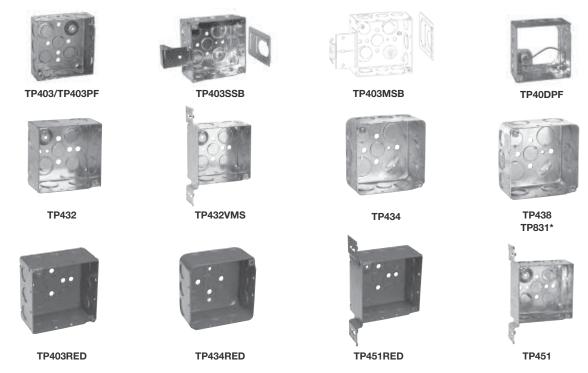
[†]TP catalog numbers ending in PF includes ground screw with pigtail lead

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

4" SQUARE OUTLET BOXES - 30.3 CUBIC INCH CAPACITY

21/8" DEEP WITH CONDUIT KOs

UL LISTED



Cat. #	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP40DMSB	MSB	Welded	8 - 1/2", 4 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	91
TP40DMSBPF	MSB	Welded	8 - 1/2", 4 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	112
TP40DPF§	_	Welded/Open Back	8 - 1/2", 4 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	92
TP403**	_	Welded	8 - 1/2", 4 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	84
TP403MSB	MSB	Welded	8 - 1/2", 4 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	95
TP403RED	_	Welded	8 - 1/2", 4 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	84
TP403REDMSB	MSB	Welded	8 - 1/2", 4 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	95
TP403PF†**	_	Welded	8 - 1/2", 4 - 1/2" & 3/4" E	2 - ½", 2 - ½" & ¾" E	25	84
TP403SSB	SSB	Welded	8 - ½", 4 - ½" & ¾" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	95
TP432**	_	Welded	8 - 3/4"	2 - ½", 2 - ½" & ¾" E	25	84
TP432MSB	MSB	Welded	8 - 3/4"	2 - 1/2", 2 - 1/2" & 3/4" E	25	95
TP432REDMSB	MSB	Welded	8 - 3/4"	2 - ½", 2 - ½" & ¾" E	25	95
TP432VMS	"VMS"	Welded	6 - 3/4"	2 - 1/2", 2 - 1/2" & 3/4" E	25	99
TP436	_	Welded	8 – 1"	2 - ½", 2 - ½" & ¾" E	25	84
TP436MSB	MSB	Welded	8 – 1"	2 - ½", 2 - ½" & ¾" E	25	95
TP434	_	Drawn	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 3/4"	25	84
TP434MSB	MSB	Drawn	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	95
TP434RED	_	Drawn	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 3/4"	25	84
TP434REDMSB	MSB	Drawn	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	95
TP438	_	Drawn	4 - 1/2", 6 - 1/2" & 3/4" C	3 - 1/2", 2 - 3/4"	25	84
TP438MSB	MSB	Drawn	4 - 1/2", 6 - 1/2" & 3/4" C	3 - ½", 2 - ¾"	25	95
TP438PF†	_	Drawn	4 - 1/2", 6 - 1/2" & 3/4" C	3 - 1/2", 2 - 3/4"	25	84
TP451	"VMS"	Welded	6 - ½", 3 - ½" & ¾" E	2 - ½", 2 - ½" & ¾" E	25	96
TP451PF†	"VMS"	Welded	6 - ½", 3 - ½" & ¾" E	2 - ½", 2 - ½" & ¾" E	25	96
TP451RED	"VMS"	Welded	6 - ½", 3 - ½" & ¾" E	2 - ½", 2 - ½" & ¾ E	25	96
TP437	"VMS"	Welded	6 - 1/2", 3 - 1/2" & 3/4" E	2 - 1/2", 2 - 1/2" & 3/4" E	25	98
Air Plenum						
TP831*	-	Drawn	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	90

^{*}For Air Plenum (No Mounting Holes) - Not UL Listed
†TP catalog numbers ending in PF includes ground screw with pigtail lead
**cUL Listed
§TP40DPF supplied with factory installed pigtail leads and TP472 flat back cover

Steel Square Boxes

4" SQUARE OUTLET BOXES - 30.3 CUBIC INCH CAPACITY 21/8" DEEP

FOR NONMETALLIC CABLE - CLAMPS IN EACH END **UL LISTED**









TP450

TP450MSB **KNOCKOUTS**

TP450SSB

Cat. #	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP450	_	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	25	90
TP450MSB	MSB	Welded	4 - Cable, 4 - ½", 2 - ½" & ¾" E	1 - 1/2"	25	101
TP450SSB	SSB	Welded	4 - Cable, 4 - ½", 2 - ½" & ¾" E	1 - 1/2"	25	101
TP452	"VMS"	Welded	4 - Cable, 2 - 1/2", 1 - 1/2" & 3/4" E	1 - 1/2"	25	104

4" SQUARE OUTLET BOXES - 30.3 CUBIC INCH CAPACITY

FOR ARMORED & METAL CLAD (MCI) CABLE - CLAMPS IN EACH END **UL LISTED**







TP431

TP431MSB

KNOCKOUTS

Cat. #	Metal Stud Sizes	Bracket	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP431*	_	_	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	25	91
TP431PF†	_	_	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	25	91
TP431MSB	_	MSB	Welded	4 - Cable, 4 - ½", 2 - ½" & ¾" E	1 - 1/2"	25	91
TP431SSB*	_	SSB	Welded	4 - Cable, 4 - 1/2", 2 - 1/2" & 3/4" E	1 - 1/2"	25	102
TP440*	All	"VMS"	Welded	4 - Cable, 2 - ½", 1 - ½" & ¾" E	1 - 1/2"	25	103

[†]TP catalog numbers ending in PF includes ground screw with pigtail lead

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

4" SQUARE TWO-DEVICE BOXES - 30.3 CUBIC INCH CAPACITY

21/8" DEEP

UL LISTED





TP391

TP395

KNOCKOUTS

Cat. #	Bracket	Description	Sides	Bottom	Std. Unit Pkg.	Wt. Lbs. Per 100
TP391	"VS", Set 7/8"	Drawn	6 - 1/2", 3 - 3/4"	3 - 1/2", 2 - 3/4"	25	95
TP395	_	Drawn	$8 - \frac{1}{2}$ ", $4 - \frac{3}{4}$ "	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	84

4" SQUARE EXTENSION RINGS

11/2" DEEP WITH CONDUIT KNOCKOUTS - 21.0 CUBIC INCH CAPACITY

 $2\frac{1}{8}$ " DEEP WITH CONDUIT KNOCKOUTS – 30.3 CUBIC INCH CAPACITY

UL LISTED





TP422†









TP424

TP428RED

TP443 (21/8" Deep)

TP428, TP833*

Cat. #	KNOCKOUTS Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100	
11/2" DEEP					
TP424	12 - 1/2"	_	50	46	
TP422	8 - ½", 4 - ½" + ¾" E	_	50	50	
TP426	8 – 3/4"	_	50	46	
TP428	8 - 1/2", 4 - 3/4"	_	50	46	
TP428RED	8 - 1/2", 4 - 3/4"	_	50	46	
TP833*	8 - 1/2", 4 - 3/4"	_	50	48	
21/8" DEEP					
TP443	8 - 1/2", 4 - 3/4"	_	25	66	
TP465	8 – 1"	_	25	60	

^{*}For Air Plenum (No Mounting Holes). Requires the use of TP854, purchase separately - Not UL Listed †For use as extension with switch box, not four square box

FLEXIBLE FIXTURE HANGERS

Eaton's Crouse-Hinds TPSFH square flexible fixture hangers are used in commercial or light industrial applications where HID high bay and low bay lighting fixtures are used. Specific applications include storage facilities, shipping warehouses, retail and DIY facilities.

Features and Benefits:

- Suitable for use with ½" or ¾" fixture conduit stems these hangers allow the conduit stem of the fixture (luminaire) to swing in any direction. Maximum swing angle is 26° from vertical max slope angles 22½°
- Available for attachment to 4" square steel boxes.
- · Quickly and easily attached by two screws.
- Hangers are drilled and tapped for use with 3/4" conduit stem as standard and come supplied with a 3/4" - 1/2" reducer for 1/2" conduit stem applications.

Certifications and Compliances:

- UL Listed UL 1598
- CSA C22.2 No. 250
- Suitable for Damp Locations

Standard Materials and Finishes:

- Material: Sheet Steel
- Finish: Zinc Chromate for corrosion resistance



Description	Support Wt. (lbs)	Cat. #
For use with 4" Square boxes	50	TPSFH12

Steel Square Covers

COVERS FOR 4" SQUARE BOXES - CUBIC INCH CAPACITY (SEE BELOW) UL LISTED

#8-32 screw used on covers

















AMR0

		TP487	TP476, TP477, TP479, TP483		
Cat. #	Description		Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
TP472†	Flat Blank		50	31	_
TP472RED	Flat Blank		50	31	_
TP474†	Flat Blank, Open With Ears 23/4"		50	21	_
TP478†	Flat with 1/2" ko		50	31	_
TP487†	Flat with 3/4" ko		50	29	_
TP473†	Raised 1/4", Open With Ears 23/4"		50	23	1.3
TP476†	Raised 1/2", Open With Ears 23/4"		50	26	4.0
TP477†	Raised 1/8", Open With Ears 23/4"		50	27	5.0
TP475†	Raised 3/4", Open With Ears 23/4"		25	31	6.0
TP479†	Raised 1", Open With Ears 23/4"		25	34	7.0
TP483†	Raised 11/4", Open With Ears 23/4"		25	37	8.5
AMR0**	3/4" - 11/2" Round Adjustable Mud Ring		25	44	6.1
Air Plenum					
TP850*	Flat Blank Gasketed With Captive Screws		25	31	_
TP854*	Flat Ring Double Gasketed		25	12	-

^{*}For Air Plenum (No Mounting Holes) - Not UL Listed

MUD RINGS FOR 4" SQUARE STEEL OUTLET BOXES UL LISTED







TP494











TP480

TP482, TP484, TP486, TP489

TP488, TP490

TP496, TP499, TP500, TP501, TP502

AMR2

AMR158

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
ONE DEVICE				
TP480†	Flat	50	20	_
TP482†	1/4" Raised	50	21	1.8
TP484†	1/2" Raised	50	23	3.8
TP489†	5/8" Raised	50	26	4.3
TP486†	3/4" Raised	50	30	5.5
TP488	1" Raised	50	34	6.8
TP490	11/4" Raised	25	39	8.5
AMR1**	3/4" - 11/2" Raised Adjustable	25	47	-
AMR158**	5/8" - 11/4" Raised Adjustable	25	44	6.0
TWO DEVICE				
TP494†	Flat	50	12	_
TP496†‡	1/4" Raised	50	13	3.0
TP498†‡	1/2" Raised	50	18	6.0
TP499†‡	5/8" Raised	50	22	8.0
TP500†‡	3/4" Raised	50	24	9.0
TP501	11/4" Raised	25	31	14.0
TP502	1" Raised	25	30	11.7
AMR2**	5/8" - 11/2" Raised Adjustable	25	50	11.3

[‡] Slotted design for use with 4" square box partitions

by **F:T•N**

Crouse-Hinds

[†]CSA Certified
**ETL Listed

[†]CSA Certified
**ETL Listed

Steel Square Covers

METALGUARD™ PROTECTIVE PLATES Applications:

- For use with single-, two-, three- and four-gang commercial or residential boxes/plaster rings; with or without devices, switches, GFCI, etc. installed
- Commercial or residential ceiling boxes

Features and Benefits:

- Seals out sheetrock mud, sanding dust and paint overspray to keep the electrical box and its wiring free from contaminants
- Heavy duty reusable metallic plate provides mechanical protection to box and wiring and speeds up trim process
- Easy to install. All you have to do is push them in! They come out easy-just put a screwdriver into the slot in front, turn and pull them out
- · Reduces risk of call backs and expense of rework because of wire and box damage
- MetalGuard serves as a guide for router in cutting out boxes

Material & Finish:

- 18 gauge steel
- Natural finish



	Description	Std. Unit	Wt. Lbs.
Cat. #	Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly	Pkg.	Per 100
MGRK	Contractor Kit (120-1G, 40-2G, 20-3G, 5-4G, and 20-Rnd)	1	-
MGR1	1G Residential Wire Protector	60	-
MGR2	2G Residential Wire Protector	20	-
MGR3	3G Residential Wire Protector	20	-
MGR4	4G Residential Wire Protector	5	-
MGR0	Rnd Residential Wire Protector	20	-
MGMR1	1G Wire Protector for Commercial MR	50	-
MGMR2	2G Wire Protector for Commercial MR	50	-
MGMR0	Rnd Wire Protector for Commercial MR	50	-
MGS1	Gangable Spacer Wire Protector	100	_

4" SQUARE SURFACE COVERS - 5.5 CUBIC INCH CAPACITY

RAISED 1/2"

UL LISTED



TP503



TP516



TP504



TP509 (4 Screws) TP518 (2 Screws)





TP513



TP508







TP511



TP510



TP515



TP512



TP517



TP507, TP514 TP519

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
TP503†	Raised Blank	50	35
TP504†	For One Toggle Switch, One Single Receptacle 113/32" Dia.	50	31
TP506†	For One Toggle Switch, One Duplex Receptacle	50	31
TP508†	For Two Toggle Switches	50	35
TP510†	For Two Duplex Receptacles	50	26
TP512†	For One Toggle Switch	50	35
TP507†	For One 20 Amp, Single Receptacle 119/32" Dia.	50	37
TP514†	For One Single Receptacle 113/32" Dia.	50	34
TP519†	For One 30 Amp. Twist-Lock Single Receptacle 123/32" Dia.	50	37
TP516†	For One Duplex Receptacle	50	31
TP509†	For One 30 – 60 Amp. Receptacle (4-wire) 2 ⁷ / ₁₆ " Dia.	50	23
TP518†	For One 30 – 50 Amp. Receptacle 29/64" Dia.	50	34
TP513†	For One GFCI Receptacle	50	31
TP511†	For Two GFCI Receptacles	50	26
TP515†	For One Toggle Switch, One GFCI Receptacle	50	31
TP517†	For One Duplex Receptacle, One GFCI Receptacle	50	26

† CSA Certified

Steel Square Boxes

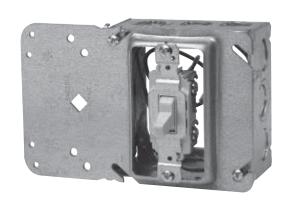
UNI-MOUNT™ COVERS

The Unimount combines the features of a mounting device plate with those of a box support; giving you one universal plate for all of your needs. Specifically designed for use with metal or wood studs:

The new and improved version incorporates four small holes on the left side (support side) of the bracket. These holes allow for the attachment of box mounting brackets to allow for use of both sides of the stud. The holes are strategically located to accept either the B-Line BB423 bracket or the Caddy H23 bracket. Additionally, the viewing hole has been significantly enlarged (and is now diamond shaped) to make it even easier to find mark lines on the stud.



- · Guide tabs ensure consistent alignment on stud
- Stud alignment hole ensures consistent mounting height
- Rigid bracket design eliminates the need for far side support
- Available as a single or two device cover
- Universal design fits all 4" square boxes
- Available in 1/2", 5/8" and 3/4" raised
- Can be ordered preassembled to popular 4" square boxes
- Fast and easy installation
- Can be used in multiple applications, resulting in less items to stock
- · Less labor intensive
- Less material handling
- No multiple assemblies to handle
- Can be used in Class II communications outlets for low voltage without a box
- UL Listed and CSA certified*
- UL File No. E-23156





Single Gang



Two Gang

Cat. #	Description	Capacity Cu. In.	Unit Qty.	Wt. Lbs. Per 100			
SINGLE GANG							
TP30000	1/2" Raised	3.8	50	43			
TP31000	⁵/₃" Raised	4.3	50	46			
TP32000	³/₄" Raised	5.5	50	50			
TWO GANG							
TP35000	1/2" Raised	6	50	38			
TP36000	⁵/₃" Raised	8	50	52			
TP37000	³/₄" Raised	9	50	54			
LOW PROFILE SCREWS	LOW PROFILE SCREWS - REDUCES RISK OF SHEETROCK BULGE						
TP710	L.P. Screws	_	1000	.5			

^{*} CSA requires a far side support.

TILE WALL COVERS FOR 4" SQUARE BOXES – CUBIC INCH CAPACITY (SEE BELOW) UL LISTED







TP540

TP524

Applications:

• Typically used with tile or brick

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
ONE DEVICE				
TP520	½" Raised	50	30	3.7
TP522	3/4" Raised	50	36	5.5
TP524	1" Raised	50	40	7.4
TP526	11/4" Raised	25	46	9.3
TP528	11/2" Raised	25	50	11.0
TP530	2" Raised	25	62	14.8
TWO DEVICE				
TP532	1/2" Raised	10	24	5
TP534	3/4" Raised	10	30	7.8
TP536	1" Raised	10	36	10.3
TP538	11/4" Raised	10	44	13
TP540	11/2" Raised	10	50	15.5
TP542	2" Raised	10	66	20.8

4" SQUARE BOX PARTITIONS



TP860



TP861



TP862



TP863

Cat. # Description Unit Qty. Wt. Lbs. Per 100 FOR 11/2" DEEP BOX WITH SQUARE CUT TILE WALL TWO-GANG COVERS TP860 For 1/2", 3/4", 1" Raised Covers 13 TP861 For 11/4", 11/2", 2" Raised Covers 18 25 FOR 21/8" DEEP BOX WITH SQUARE CUT TILE WALL TWO-GANG COVERS For 1/2", 3/4", 1" Raised Covers For 11/4", 11/2", 2" Raised Covers TP862 25 16 21 **TP863**

Steel Square Boxes

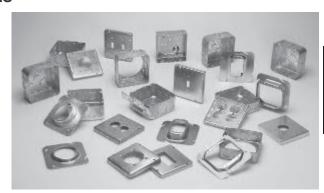
411/1611 SQUARE OUTLET BOXES AND COVERS

Applications:

- For use with conduit
- For use in commercial and industrial applications, where larger sized conductor or wiring devices are needed and additional volume is required
- Available in red for fire alarm applications



- Ideal for exposed work applications, providing an easy method for the installation of electrical devices (switches, receptacles, fans, lights, etc.)
- Raised ground screw location in the welded boxes saves time in installation
- Concentric knockouts have a ½" and ¾" knockout in the same location for customer flexibility
- Knockouts are suitable for use without a bonding jumper in circuits above or below 250 volts
- · Available in two depths for differing cubic capacity requirements
- Welded or drawn construction to match customer preference
- Extensive cover offering to meet various customer applications and needs



Certifications and Compliances:

UL Listed

411/16" SQUARE OUTLET BOXES – 29.5 CUBIC INCH CAPACITY 11/2" DEEP WITH CONDUIT KOS UL LISTED







TP523 TP548 TP549

KNOCKOUTS

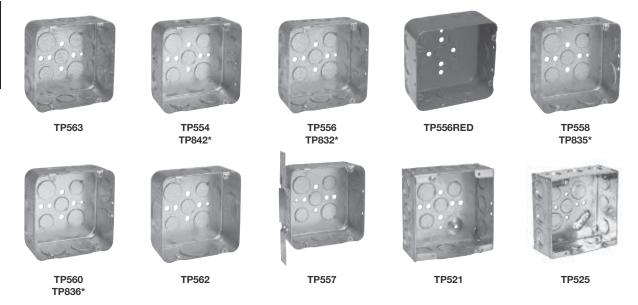
Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100		
29.5 CUBIC INCH CAPACITY							
TP523	Welded	12 - ½" & ¾" C	$2 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	99		
TP523PF†	Welded	12 - ½" & ¾" C	2 - 1/2", 2 - 3/4"	25	99		
TP548	Drawn	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	84		
TP548MSB	Drawn	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 3/4"	25	95		
TP549	Drawn	6 - ½", 6 - ½" & ¾" C	3 - 1/2", 2 - 3/4"	25	84		
TP549MSB	Drawn	6 - ½", 6 - ½" & ¾" C	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	95		

†TP catalog numbers ending in PF includes ground screw with pigtail lead

411/16" SQUARE OUTLET BOXES - 42.0 AND 44.0 CUBIC INCH CAPACITY

21/8" DEEP WITH CONDUIT KOs

UL LISTED



Cat. #	Description	Brackets	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100		
42.0 CUBIC INCH	42.0 CUBIC INCH CAPACITY							
TP563	Drawn	_	6 - ½", 6 - ½" & ¾" C	3 - 1/2", 2 - 3/4"	25	104		
TP563MSB	Drawn	MSB	6 - ½", 6 - ½" & ¾" C	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	115		
TP554	Drawn	_	8 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	104		
TP554MSB	Drawn	MSB	8 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	115		
TP556	Drawn	_	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	104		
TP556PF†	Drawn	_	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	104		
TP556MSB	Drawn	MSB	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	115		
TP556RED	Drawn	_	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	104		
TP556REDMSB	Drawn	MSB	8 - 1/2", 4 - 3/4"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	115		
TP558	Drawn	_	4 - 3/4", 4 - 1"	3 - 1/2", 2 - 3/4"	25	104		
TP558MSB	Drawn	_	4 - 3/4", 4 - 1"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	104		
TP558REDMSB	Drawn	MSB	4 - 3/4", 4 - 1"	$3 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	115		
TP560	Drawn	_	8 – 1"	3 - 1/2", 2 - 3/4"	25	104		
TP560MSB	Drawn	_	8 – 1"	3 - 1/2", 2 - 3/4"	25	115		
TP562‡	Drawn	_	4 - 11/4"	3 - 1/2", 2 - 3/4"	25	104		
TP557	Drawn	"VS"	5 - 1/2", 4 - 1/2" & 3/4" C	3 - 1/2", 2 - 3/4"	25	120		
44.0 CUBIC INCH	I CAPACITY							
TP521	Welded	_	12 - ½" & ¾" C	$2 - \frac{1}{2}$, $2 - \frac{3}{4}$	25	115		
TP521PF†	Welded	_	12 - ½" & ¾" C	2 - 1/2", 2 - 3/4"	25	115		
TP525**	Welded	_	12 - ½" & ¾" E	2 - 1/2", 2 - 1/2", 3/4" E	25	115		
Air Plenum								
TP835*		_	4 - 3/4", 4 - 1"	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	115		
TP836*		_	8 – 1"	3 - 1/2", 2 - 3/4"	25	115		
TP842*		_	12 - 3/4"	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	115		
TP832*		_	8 - 1/2", 4 - 3/4"	3 - 1/2", 2 - 3/4"	25	115		

^{*}For Air Plenum (No Mounting Holes) - Not UL Listed
**Raised ground bump contains holes for 2 ground screws
†TP catalog numbers ending in PF includes ground screw with pigtail lead
‡Not UL Listed

Steel Square Covers

411/16" SQUARE EXTENSION RINGS

 $1^1\!/_2$ DEEP WITH CONDUIT KOs - 29.5 CUBIC INCH CAPACITY $2^1\!/_8$ DEEP WITH CONDUIT KOs - 42.0 CUBIC INCH CAPACITY UL LISTED







TP550

TP564 TP837*

TP564RED

Cat. #	Description	KNOCKOUTS Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100	
29.5 INCH CUE	BIC CAPACITY					
TP550		8 - 1/2", 4 - 3/4"	_	25	66	
TP551		8 - 1/2", 4 - 3/4"	_	25	104	
42 INCH CUBI	C CAPACITY					
TP564		$8 - \frac{1}{2}$, $4 - \frac{3}{4}$	_	25	84	
TP564RED		8 - 1/2", 4 - 3/4"	_	25	84	
TP565		8 - 1/2", 4 - 3/4"	_	25	104	
TP566		8 – 1"	_	25	78	
Air Plenum						
TP837*	21/8" Deep	8 - 1/2", 4 - 3/4"	_	25	115	

Note: *For Air Plenum (No Mounting Holes) - Not UL Listed TP837 requires the use of TP852, purchased separately.

411/16" SQUARE COVERS - CUBIC INCH CAPACITY (SEE BELOW) **UL LISTED**



TP568



TP568RED



TP569, TP570, TP571, TP573, TP575



TP572



TP574 - TP582, TP529, TP531



TP584, TP586, TP589, TP593, TP541, TP543



TP851*



TP852*

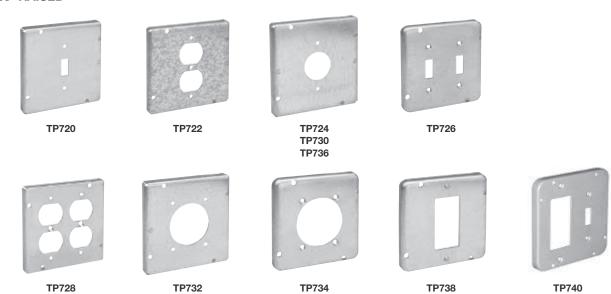
Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
FLAT AND RAISED				
TP568†	Flat Blank	25	40	_
TP568RED	Flat Blank	25	40	_
TP569‡	1/2" Raised, With Ears 23/4"	25	36	3.3
TP570	Raised 1/8", With Ears 23/4"	25	38	3.8
TP571‡	3/4" Raised, With Ears 23/4"	25	40	5.0
TP572†	Flat, With 1/2" KO	25	40	_
TP573‡	1" Raised, With Ears 23/4"	25	44	7.0
TP575‡	11/4" Raised, With Ears 23/4"	25	48	9.0
AIR PLENUM				
TP851*	Flat Blank Gasketed Captive Screws	50	42	_
TP852*	Flat Ring Double Gasketed	25	20	_
ONE DEVICE				
TP574	1/4" Raised	25	32	1.8
TP576	1/2" Raised	25	36	3.3
TP578	3/4" Raised	25	42	5.0
TP579	⁵/₃" Raised	25	39	4.5
TP580	1" Raised	25	46	6.8
TP582	11/4" Raised	25	52	8.5
TP529	11/2" Raised	25	64	11.3
TP531	2" Raised	25	76	15.0
TWO DEVICE				
TP590‡	Flat	25	21	_
TP583‡	1/4" Raised	25	26	3.0
TP584	1/2" Raised	25	30	6.0
TP587	⁵/₃" Raised	25	32	8.0
TP586	3/4" Raised	25	34	8.8
TP589	1" Raised	25	38	11.7
TP593	11/4" Raised	25	42	14.0
TP541	11/2" Raised	25	63	18.8
TP543	2" Raised	25	79	24.5

^{*}For Air Plenum (No Mounting Holes) †CSA Certified ‡ Not UL Listed

Steel Square Covers

411/16" SQUARE SURFACE COVERS - 9.0 CUBIC INCH CAPACITY

1/2" RAISED



Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
TP720	For One Toggle Switch	10	52
TP722	For One Duplex Receptacle	10	49
TP724	For One Single Receptacle 113/32" Dia.	10	53
TP730	For One 20 Amp Single Receptacle 1.620" Dia.	10	50
TP736	For One 1.730" Dia. Power Outlet	10	51
TP726	For Two Toggle Switches	10	52
TP728	For Two Duplex Receptacles	10	44
TP732	For One 2.125" Dia. Range/Dryer Receptacle	10	48
TP734	For One 2.480" Dia. Power Outlet	10	45
TP738	For One Ground Fault Interrupter	10	45
TP740	For One GFI Receptacle & One Toggle	25	45
TP741	For Two GFI Receptacles	10	43

UTILITY BOXES - CUBIC INCH CAPACITY (SEE BELOW)

4" LONG x 21/8" WIDE

UL LISTED













TP588, TP647

TP591

TP592, TP600, TP602

TP598 TP605

TP594, TP596

TP604, TP606

KNO	OCK	OU	TS
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		KNOCKOUIS						
Cat. #	Bracket	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100			
11/4" DEEP -	11/4" DEEP – 8.5 CUBIC INCH CAPACITY							
TP647	_	8 - 1/2"	3 - 1/2"	50	40			
11/2" DEEP -	10.3 CUBIC INCH CAPACITY							
TP588	_	8 – 1/2"	3 - 1/2"	50	42			
TP591	"F", Set 1/4"	5 - 1/2"	3 - 1/2"	50	51			
11/2" DEEP E	1½" DEEP EXTENSION RINGS – 10.3 CUBIC INCH CAPACITY							
TP592	_	8 - 1/2"	_	50	36			
11/8" DEEP -	13.0 CUBIC INCH CAPACITY							
TP594	_	8 - 1/2"	3 - 1/2"	50	50			
TP596	_	6 – 3/4"	3 - 1/2"	50	50			
TP598	"S", SET 1/2"	5 - 1/2"	3 - 1/2"	50	60			
11/8" DEEP E	XTENSION RINGS - 13.0 CUBIC	INCH CAPACITY						
TP600	_	8 - 1/2"	_	50	41			
TP602	_	6 - 3/4"	_	50	41			
21/s" DEEP - 14.5 CUBIC INCH CAPACITY								
TP604	_	8 - 1/2"	3 - 1/2"	50	56			
TP606	_	6 - 3/4"	3 - 1/2"	50	56			
TP605	"S", Set 1/2"	5 – 1/2"	3 - 1/2"	50	66			

UTILITY BOX COVERS

UL LISTED







TP612









TP608

TP610

TP613

TP614

TP616

TP618

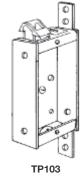
Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
TP608*	Blank	100	10
TP610*	For 20 and 30 AMP, Twist Lock, 119/32" Diameter	100	9
TP612*	Single Receptacle, 113/32" Diameter	100	9
TP613*	For GFCI Device	100	7
TP614*	¹/₂" KO	100	10
TP616*	Duplex Receptacle	100	8
TP618*	One Toggle Switch	100	10

*CSA Certified

1" DEEP - NON-GANGABLE - 6.5 CUBIC INCH CAPACITY

115/16" WIDE x 33/4" LONG





KNOCKOUTS

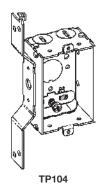
Cat. #	Bracket	Plastic Clamp	Conduit	Cable	Unit Qty.	Wt. Lbs. Per 100
TP101	"S"	No	1 - 1/2"	2	25	38
TP103	"S"	Yes	1 - 1/2"	2	25	39

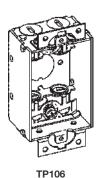
11/2" DEEP - NON-GANGABLE - 7.5 CUBIC INCH CAPACITY

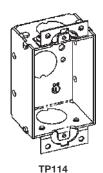
2" WIDE x 3" LONG

UL LISTED









KNOCKOUTS

Cat. #	Bracket	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100			
FOR NON	METALLIC CABLE - C	LAMPS IN EACH E	ND							
TP100	_	Yes	2 - Cable	_	1 - 1/2"	50	43			
TP104	"S", set 1/2"	_	2 - Cable	_	1 - 1/2"	50	50			
FOR ARMORED & METAL CLAD (MCI) CABLE - CLAMPS IN EACH END										
TP106*	_	Yes	2 - Cable	_	1 - 1/2"	50	44			
FOR CONE	DUIT - NO CLAMPS, I	FLUSH DEVICE								
TP114	_	Yes	1 - 1/2"	_	1 - 1/2"	50	39			
*I II approved to	r una suith alumainum interlaaki	na areundina metal alad as	ble Time MCIA (Courth	vivo MCADIM)						

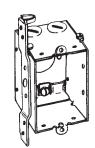
*UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

2" DEEP - GANGABLE - 10.0 CUBIC INCH CAPACITY

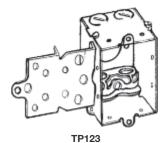
2" WIDE x 3" LONG

UL LISTED





TP118

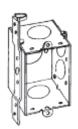




TP120







TP126

TP132

TP131 Hold-Tite

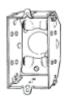
Cat. #	Bracket	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100					
FOR NONN	FOR NONMETALLIC CABLE - CLAMPS IN EACH END											
TP116	-	Yes	2 - Cable	_	1 - 1/2"	50	53					
TP118	"S", Set ⅓"	_	2 - Cable	_	1 - 1/2"	50	60					
FOR ARMO	ORED & METAL CL	AD (MCI) CAB	LE - CLAMPS IN I	EACH END								
TP120*	_	Yes	2 - Cable	_	1 - 1/2"	50	54					
TP123*	"F", Set 1/2"	_	2 - Cable	_	1 - 1/2"	50	63					
TP124*	"S", Set 5/8"	_	2 - Cable	-	1 - 1/2"	50	61					
FOR COND	OUIT - NO CLAMPS	S, FLUSH DEV	ICE									
TP126	-	_	1 - 1/2"	2 - 1/2"	1 - 1/2"	50	47					
TP130	_	Yes	1 - 1/2"	2 - 1/2"	1 - 1/2"	50	48					
TP132	"S", Set ⅓"	_	1 - 1/2"	2 - ½", 1 Side	1 - 1/2"	50	58					
TP131	Hold-Tite	Yes	1 - ½"-T	_	1 - 1/2"	50	52					

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

21/4" DEEP - GANGABLE - BEVELED CORNERS 10.5 CUBIC INCH CAPACITY

2" WIDE x 3" LONG

UL LISTED







TP134

TP137 Hold-Tite

TP13

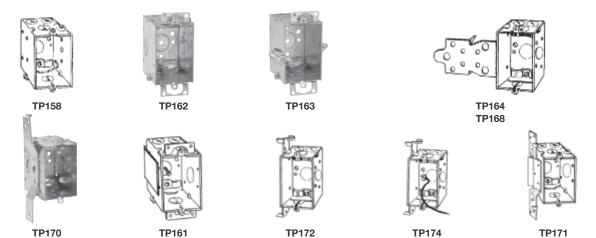
KNOCKOUTS

Cat. #	Description	Ears	Bumps	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100			
CLAMP SCREWS THROUGH BEVELED CORNERS											
TP134	Gangable	_	Yes	2 - Cable	_	1 - 1/2"	50	51			
TP137	Gangable	Yes	_	2 - Cable	_	1 - 1/2"	50	57			
TP138	Gangable	Yes	_	2 – Cable	_	1 - 1/2"	50	55			

21/2" DEEP - GANGABLE - 12.5 CUBIC INCH CAPACITY

2" WIDE x 3" LONG

UL LISTED

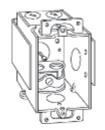


					KNOCKOUTS				
Cat. #	Bracket	Ears	Ground Pigtail	Leveling Bumps	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100
FOR NO	ONMETALLIC (CABLE	- CLAMPS IN EA	CH END					
TP158	_	_	_	Yes	2 - Cable, 1 - 1/2"	_	1 - 1/2"	50	59
TP115*	_	Yes	Yes	_	2 - Cable	1 - 1/2"	1 - 1/2"	50	63
TP161	Snap-In	Yes	_	_	2 - Cable	1 - 1/2"	_	50	73
TP162	_	Yes	_	_	2 - Cable	1 - 1/2"	1 - 1/2"	50	62
TP163	Hold-Tite	Yes	_	_	2 - Cable	_	1 - 1/2"	50	65
TP164	"F", Set 1/2"	_	_	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	71
TP168	"F", Set 1/4"	_	_	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	71
TP170	"S", Set ⁵ / ₃"	_	_	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	69
TP172	"D", Set ⅓"	_	_	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	70
TP174	"D", Set ⅓"	_	Yes	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	71
TP171	"VP", Set 1/2"	_	_	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	73
*Not UL Li	sted								

Crouse-Hinds

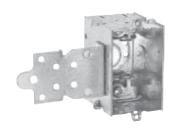
21/2" DEEP - GANGABLE - 12.5 CUBIC INCH CAPACITY

2" WIDE x 3" LONG FOR ARMORED & METAL CLAD (MCI) CABLE – CLAMPS IN EACH END UL LISTED









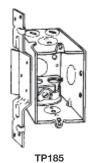
TP177

TP178

TP179 Hold-Tite

TP180





KNOCKOUTS

Cat. #	Bracket	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP177*	Snap-In	Yes	2 - Cable	1 - 1/2"	_	50	74
TP178*	_	Yes	2 – Cable	1 - 1/2"	1 - 1/2"	50	63
TP179*	Hold-Tite	Yes	2 - Cable	_	1 - 1/2"	50	66
TP180*	"F", Set 1/2"	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	72
TP184*	"S", Set ⅓"	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	70
TP185*	"VP". Set 1/2"	_	2 - Cable, 1 - 1/2"	1 - 1/2"	1 - 1/2"	50	74

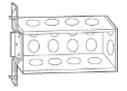
[&]quot;UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

GANG BOXES SET BACK 1/2"

$2^{1}/2^{11}$ DEEP – $3^{3}/4^{11}$ HIGH – $1/2^{11}$ AND $3/4^{11}$ CONCENTRIC KOs

UL LISTED





TP633



TP637



TP632

TP638

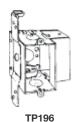
Cat. #	Gang	Bracket	Width	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
TP632	3	VP	59/16"	2	3	6	5	143	46.5
TP633	4	VP	73/8"	2	4	8	5	179	62.0
TP637	3	VS	59/16"	2	3	6	5	143	46.5
TP638	4	VS	73/8"	2	4	8	5	179	62.0

21/2" DEEP "EC" BOXES - GANGABLE - CUBIC INCH CAPACITY (SEE BELOW)

2" WIDE × 3" LONG CLAMPS IN EACH END **UL LISTED**







TP188

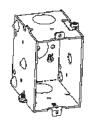
Note: The cubic capacity of any of our new work 2½" Deep Switch Boxes can be increased to 18 cubic inches simply by adding our "EC" Extender to the sides of the box. This provides 5.5 extra cubic inches of space necessary to conform to revisions in the National Electrical Code. "EC" boxes are stocked factory assembled in popular styles; however, the "EC" Extender can be ordered separately for "Instant-On" assembly on the job with Eaton's Crouse-Hinds Switch Boxes.

KNOCKOUTS

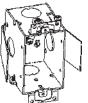
Cat. #	Bracket	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.				
TP188	_	_	_	_	50	32	5.5				
FOR NONMETALLIC CABLE											
TP190	"D", Set ⅓"	2 - Cable, 1 - 1/2"	_	1 - 1/2"	25	89	18.0				
TP196	"S", Set 5/₃"	2 - Cable, 1 - 1/2"	_	1 - 1/2"	25	89	18.0				

21/2" DEEP - GANGABLE - 12.5 CUBIC INCH CAPACITY

2" WIDE x 3" LONG FOR CONDUIT - NO CLAMPS **UL LISTED**



TP214



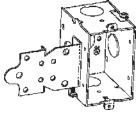
TP216



TP217



TP218









TP224

Cat. #	Bracket	Ears	Leveling Bumps	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP214	_	_	Yes	1 - 1/2"	_	1 - 1/2"	50	55
TP216	Snap-In	Yes	_	1 - 1/2"	1 - 1/2"	_	50	69
TP217	_	Yes	_	1 - 1/2"	_	1 - 1/2"	50	64
TP218	_	Yes	_	1 - 1/2"	1 - 1/2"	1 - 1/2"	50	58
TP220	"F", Set 1/2"	_	_	1 - 1/2"	1 - ½", 1 Side	1 - 1/2"	50	66
TP222	"S", Set ⅓"	_	_	1 - 1/2"	1 - 1/2", 1 Side	1 - 1/2"	50	65
TP224	Hold-Tite	Yes	_	1 - 1/2"	_	1 - 1/2"	50	61

21/2" DEEP SWITCH BOXES - "INSTANT ON" - 12.5 CUBIC INCH CAPACITY

2" WIDE × 3" LONG

WITH BUMPS - CLAMPS IN EACH END (BUMPS LEVEL THE BOX AGAINST THE SIDE OF STUD, TOP TO **BOTTOM, FRONT TO BACK)**



TP213

Cat. #	Clamps	Nails	KNOCKOUTS Each End	Each Side	Bottom	Std. Unit Pkg.	Wt. Lbs. Per 100
TP213	Armored Cable	Angle	2 - Cable, 1 - 1/2"	_	1 - 1/2"	50	66

23/4" DEEP - GANGABLE - 14.0 CUBIC INCH CAPACITY

2" WIDE x 3" LONG

UL LISTED





TP668



TP662





киоскоитѕ

			KINOCKOOIS								
Cat. #	Bracket	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100				
FOR NON	FOR NONMETALLIC CABLE – CLAMPS IN EACH END										
TP660	_	_	2 - Cable	1 - 1/2"	1 - 1/2"	50	62				
TP662	_	Yes	2 - Cable	1 - 1/2"	1 - 1/2"	50	67				
TP664	"S", Set ⁵ / ₈ "	_	2 - Cable	1 - 1/2"	1 - 1/2"	50	70				
FOR ARM	IORED & METAL CL	AD (MCI)	CABLE - CLAMPS	S IN EACH END							
TP668*	_	Yes	2 - Cable	1 - 1/2"	1 - 1/2"	50	68				
TP670*	"S", Set ⁵ / ₈ "	_	2 - Cable	1 - 1/2"	1 - 1/2"	50	71				

*UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

23/4" DEEP - GANGABLE - 14.0 CUBIC INCH CAPACITY

2" WIDE x 3" LONG FOR CONDUIT - NO CLAMPS

UL LISTED



TP672 TP674



(TP676 - 1 screw ear) (TP678 – 2 screw ear)



TP680 TP677

KNOCKOUTS

Cat. #	Bracket	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP672	_	_	1 - 1/2"	1 - 1/2"	1 - 1/2"	50	59
TP674	_	_	1 - 3/4"	1 - 3/4"	1 - 1/2"	50	59
TP676	_	Yes	1 - 1/2"	1 - 1/2"	1 - 1/2"	50	61
TP678	_	Yes	1 - 3/4"	1 - 3/4"	1 - 1/2"	50	61
TP680	"S", Set 5/₃"	_	1 - 1/2"	1 - ½", 1 Side	1 - 1/2"	50	70
TP677	"S" Set 5/6"	_	1 - 3/4"	1 – 3/4" 1 Side	1 - 1/2"	50	70

31/2" DEEP - GANGABLE - 18.0 CUBIC INCH CAPACITY

2" WIDE x 3" LONG FOR NONMETALLIC CABLE - CLAMPS IN EACH END **UL LISTED**



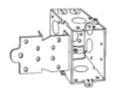
TP236



TP238



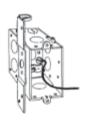
TP239



TP240



TP242



TP243

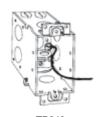
Cat. #	Bracket	Ground Pigtail	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP236	_	_	_	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	78
TP238	_	_	Yes	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	80
TP239	_	Yes	Yes	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	81
TP240	"F", Set 1/2"	_	_	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	88
TP242	"S", Set ⁷ /₃"	_	_	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	87
TP243	"S" Set 7/6"	Yes	_	2 - Cable 1 - 1/4"	2 - 1/2"	1 - 1/2"	25	88

31/2" DEEP - GANGABLE - 18.0 CUBIC INCH CAPACITY

2" WIDE x 3" LONG FOR ARMORED & METAL CLAD (MCI) CABLE – CLAMPS IN EACH END

UL LISTED







TP244

TP249

KNOCKOUTS

Cat. #	Bracket	Ground Pigtail	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP244*	_	_	Yes	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	81
TP249*	_	Yes	Yes	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	82
TP246*	"S", Set 1/8"	_	_	2 - Cable, 1 - 1/2"	2 - 1/2"	1 - 1/2"	25	88

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.

31/2" DEEP - GANGABLE - 18.0 CUBIC INCH CAPACITY

2" WIDE x 3" LONG FOR CONDUIT - NO CLAMPS





TP248 TP250



TP252



TP254

Cat. #	Bracket	Ears	Each End	Each Side	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP248	_	_	2 - 1/2"	2 - 1/2"	1 - 1/2"	25	74
TP250	_	_	2 - 3/4"	2 - 3/4"	1 - 1/2"	25	74
TP252	_	Yes	2 - 1/2"	2 - 1/2"	1 - 1/2"	25	76
TP254	_	Yes	2 - 3/4"	2 - 3/4"	1 - 1/2"	25	76

Steel Gang Boxes

GANG BOXES

15/8" DEEP x 41/2" HIGH 1/2" & 3/4" KOs

UL LISTED





TP630



TP640

TP629

KNOCKOUTS

Cat. #	Gang	Cubic Inches	Width	Each Side	Each End	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP629	2	45	613/16"	2 - 1/2", 2 - 3/4"	1 - 1/2", 1 - 3/4"	3 - 1/2", 2 - 3/4"	5	45
TP630	3	58	85/8"	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	1 - 1/2", 1 - 3/4"	6 - 1/2", 4 - 3/4"	5	58
TP631	4	70	107/16"	$3 - \frac{1}{2}$ ", $3 - \frac{3}{4}$ "	1 - 1/2", 1 - 3/4"	$6 - \frac{1}{2}$ ", $4 - \frac{3}{4}$ "	5	70
TP640	5	85	121/4"	$4 - \frac{1}{2}$, $3 - \frac{3}{4}$	1 - 1/2", 1 - 3/4"	6 - 1/2", 4 - 3/4"	1	85
TP641	6	95	141/16"	$4 - \frac{1}{2}$ " $4 - \frac{3}{4}$ "	1 - 1/2". 1 - 3/4"	$6 - \frac{1}{2}$ ", $4 - \frac{3}{4}$ "	1	95

GANG BOXES

2¹/₂" DEEP x 4¹/₂" HIGH ³/₄" & 1" KOs

UL LISTED







TP873

KNOCKOUTS

		Cubic						Wt. Lbs.
Cat. #	Gang	Inches	Width	Each Side	Each End	Bottom	Unit Qty.	Per 100
TP870	2	71	613/16"	2 - 3/4", 1 - 1"	1 - 3/4", 1 - 1"	3 - 1/2", 2 - 3/4"	10	147
TP871	3	90	85/8"	4 - 3/4", 1 - 1"	1 - 3/4", 1 - 1"	$6 - \frac{1}{2}$ ", $4 - \frac{3}{4}$ "	10	183
TP872	4	110	107/16"	2 - 3/4", 2 - 1"	1 - 3/4", 1 - 1"	$6 - \frac{1}{2}$, $4 - \frac{3}{4}$	5	216
TP873	5	132	121/4"	3 - 3/4", 2 - 1"	1 - 3/4", 1 - 1"	$6 - \frac{1}{2}$, $4 - \frac{3}{4}$	5	263
TP874	6	150	141/16"	3 - 3/4", 3 - 1"	1 - 3/4", 1 - 1"	$6 - \frac{1}{2}$, $4 - \frac{3}{4}$	5	282

GANG BOX PARTITIONS



TP876



TP877

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
TP876	For 15/8" Deep Box	25	19
TP877	For 21/2" Deep Box	50	24

GANG BOX COVERS

RAISED 13/16" FOR PLASTER

UL LISTED







Cat. #	Gang	Length	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
TP657	2	7"	5	53	8.5
TP653	3	813/16"	5	60	13.5
AMR3**	3	3/4"-1-1/2" Raised Adjustable	25	78	10.4
TP655	4	10⁵/₃"	5	66	18.3
TP661	5	127/16"	5	75	23.0
TP667	6	141/4"	5	85	28.3
**ETL Listed					

GANG BOX COVERS, FLAT, BLANK UL LISTED



TP803



TP806

Cat. # Gang Length Unit Qty. Wt. Lbs. Per 100 TP802 TP803 813/16" 85 3 5 10⁵/₈" 12⁷/₁₆" 14¹/₄" TP804 94 4 5 TP805 TP806 122 132 5 6

Steel Masonry Boxes

MASONRY BOXES

 $2^{1}\!/_{\!2}"$ DEEP \times $3^{3}\!/_{\!4}"$ HIGH $^{1}\!/_{\!2}"$ AND $^{3}\!/_{\!4}"$ CONCENTRIC KOs UL LISTED



TP682

KNOCKOUTS

Cat. #	Gang	Width	Each Side	Each End	Bottom	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
TP682	1	115/16"	2	1	2	20	70	15.5
TP683	2	33/4"	2	2	4	10	103	31.0
TP684	3	59/16"	2	3	6	5	129	46.5
TP685	4	73/8"	2	4	8	5	165	62.0
TP686	5	93/16"	2	5	10	5	189	77.5
TP687	6	11"	2	6	12	1	230	93.0

MASONRY BOXES

 $3\frac{1}{2}$ " DEEP × $3\frac{3}{4}$ " HIGH $\frac{1}{2}$ " AND $\frac{3}{4}$ " CONCENTRIC KOs UL LISTED



TP690



TP691

KNOCKOUTS

Cat. #	Gang	Width	Each Side	Each End	Bottom	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
TP690	1	115/16"	2	2	2	20	84	22.0
TP691	2	33/4"	2	4	4	10	120	44.0
TP692	3	59/16"	2	6	6	10	155	66.5
TP693	4	73/8"	2	8	8	5	207	88.0
TP694	5	93/16"	2	10	10	5	235	110.0
TP695	6	11"	2	12	12	1	287	132 በ

MASONRY BOX PARTITIONS

Cat. #	Description	Unit Qty.	Per 100
TP820	Nonmetallic Partition for 21/2" Deep Masonry Boxes	25	3
TP821	Nonmetallic Partition for 31/2" Deep Masonry Boxes	25	4

Steel Masonry Boxes

GANGABLE MASONRY BOXES

UL LISTED

Features:

- The gangable feature allows the option of creating a multiple gang box from a single gang box by simply removing the combo head screw holding the side with a #2 bit and connecting the two (or more) boxes together re-using the screws
- Non-metallic partitions (ordered separately) install quickly and easily without tools in multi-gang boxes and are used to separate power and
 control circuits within the same box, as required by the National Electrical Code®









KNOCKOUTS

Cat. #	Width	Each Side	Each End	Bottom	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.				
21/2" DEEP	2½" DEEP x 3¾" HIGH, ½" AND ¾" CONCENTRIC KOs										
TP671	1 15/16"	2	2	2	20	63	15.5				
31/2" DEEP	3½" DEEP × 3¾" HIGH, ½" AND ¾" CONCENTRIC KOs										
TP675	115/16"	4	2	2	20	82	22.0				

GANGABLE MASONRY BOX PARTITIONS

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	
TP654	Nonmetallic Partition for 21/2" Deep Gangable Masonry Boxes	25	4	
TP656	Nonmetallic Partition for 31/2" Deep Gangable Masonry Boxes	25	6	

Steel Octagon Boxes & Ceiling Pans

31/4" ROUND CEILING PAN† - 4.0 CUBIC INCH CAPACITY

1/2" DEEP CLAMPS IN BOTTOM FIXTURE RATED UL LISTED



TP266

KN	\sim	^	v	\sim	113	TC
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Cat. #	Cable	Conduit	Unit Qty.	Wt. Lbs. Per 100
TP266	4 - Cable	1 - 1/2"	50	30

31/4" OCTAGON OUTLET BOXES† - 9.0 CUBIC INCH CAPACITY

1½" DEEP FIXTURE RATED

UL LISTED



TP256



TP258







TP260 TP

KNOCKOUTS

Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100			
FOR CON	FOR CONDUIT - NO CLAMPS							
TP256	_	4 - 1/2"	1 - 1/2"	50	41			
TP258	Extension Ring	4 - 1/2"	_	50	31			
FOR NON	METALLIC CABLE WITH CLAMP	s						
TP259	"S" Bracket, Set 1/2"	4 - Cable, 1 - 1/2"	1 - 1/2"	50	53			
TP260	_	4 - Cable, 2 - 1/2"	1 - 1/2"	50	44			
TP264	Two Screw Ears	4 - Cable, 2 - 1/2"	1 - 1/2"	50	47			

 $[\]dagger$ Weight limit for $3\frac{1}{4}$ " and 4" octagon outlet boxes and ceiling pans is 50 lbs. for fixture/luminaire. Not suitable for fans.

31/4" ROUND CEILING COVERS UL LISTED





TP270

TP272

Cat. #	KNOCKOUTS Cable	Unit Qty.	Wt. Lbs. Per 100
TP270	Flat Blank	100	18
TP272	Flat, 1/2" KO in Center	100	18

Steel Octagon Boxes & Ceiling Pans

4" ROUND CEILING PANS* - 6.0 CUBIC INCH CAPACITY

1/2" **DEEP FIXTURE RATED UL LISTED**





TP269		TP267
=00	KNOCKOUTS	

Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP269	KOs Only	_	5 - 1/2"	50	35
TP267	KOs and Clamps	_	4 - Cable, 3 - 1/2"	50	39

^{*}Weight limit for 31/4" and 4" octagon outlet boxes and ceiling pans is 50lbs for fixture.

4" OCTAGON OUTLET BOXES† - 15.5 CUBIC INCH CAPACITY

FOR CONDUIT - NO CLAMPS FIXTURE RATED UL LISTED







KNOCKOUTS

2 - 1/2", 2 - 3/4"







			NI NI	4	
TP274, TP278,	TP276	TP273	TP280	TP282	TP284, TP286
TP834*		KNOCKOLITE			

Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100	
TP274	_	4 - 1/2"	5 - 1/2"	50	50	
TP273	Blank Bottom	4 - 1/2"	_	50	51	
TP276	_	4 - 3/4"	3 - 1/2", 2 - 3/4"	50	50	
TP278	_	$2 - \frac{1}{2}$, $2 - \frac{3}{4}$	3 - 1/2", 2 - 3/4"	50	50	
TP280	"C" Bracket	4 - 1/2"	5 - 1/2"	50	60	
TP282	"S" Bracket, Set 1/2"	3 - 1/2"	5 - 1/2"	50	58	
Air Plenu	n					
TP834*	For Air Plenum	4 - 1/2"	5 - 1/2"	50	52	
OCTAGO	N EXTENSION RINGS - (SL	OT & KEY PERMIT MOUI	NTING WITHOUT REMO	VING BOX SCREW	/S)	
TP284+	_	$\Delta = 1/2$ "	_	50	36	

TP286‡

^{*}For Air Plenum (No Mounting Holes) - Not UL Listed.
†Weight limit for 37/4" and 4" octagon outlet boxes and ceiling pans is 50 lbs for fixture/luminaire. Not suitable for fans. ‡CSA Certified.

Steel Octagon Boxes & Ceiling Pans

4" OCTAGON OUTLET BOXES† - 15.5 CUBIC INCH CAPACITY

FOR ARMORED & METAL CLAD (MCI) CABLE - CLAMPS IN EACH END

FIXTURE RATED

UL LISTED







TP310

TP314

KNOCKOUTS

Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP310*	_	4 - Cable, 2 - 1/2"	1 - 1/2"	50	57
TP312*	"C" Bracket	4 - Cable, 2 - 1/2"	1 - 1/2"	50	66
TP314*	"S" Bracket, Set 1/2"	4 - Cable, 1 - 1/2"	1 - 1/2"	50	64

TP312

4" OCTAGON OUTLET BOXES† - 15.5 CUBIC INCH CAPACITY

FOR NONMETALLIC CABLE - WITH CLAMPS **FIXTURE RATED**

UL LISTED













TP298

TP300 KNOCKOUTS

TP306

TP308

Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100	
TP298	_	4 - Cable, 2 - 1/2"	1 - 1/2"	50	56	
TP300	With Side Nail Holes	4 - Cable, 2 - 1/2"	1 - 1/2"	50	55	
TP302	"C" Bracket	4 - Cable, 2 - 1/2"	1 - 1/2"	50	65	
TP304	"S" Bracket, Set 1/2"	4 - Cable, 1 - 1/2"	1 - 1/2"	50	64	
TP306	Two Screw Ears	4 - Cable, 2 - 1/2"	1 - 1/2"	50	58	
TP308	"F" Bracket, Set 1/2"	4 - Cable, 1 - 1/2"	1 - 1/2"	50	64	

[†] Weight limit for 31/4" and 4" octagon outlet boxes and ceiling pans is 50lbs for fixture/luminaire. Not suitable for fans

[&]quot;UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAP™) MCAP™ is a registered trademark of Southwire Company.
† Weight limit for 31/₁" and 4" octagon outlet boxes and ceiling pans is 50lbs for fixture/luminaire. Not suitable for fans

4" OCTAGON OUTLET BOXES† - 21.5 CUBIC INCH CAPACITY

FOR CONDUIT - NO CLAMPS

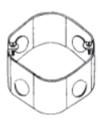
FIXTURE RATED

UL LISTED









TP288, TP290, TP294

TP292, TP838*

TP292RED

TP339

KNOCKOUTS

Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100
TP288	_	4 - 1/2"	3 - 1/2", 2 - 3/4"	25	64
TP288PF‡	_	4 - 1/2"	$3 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	25	64
TP290	_	4 - 3/4"	3 - 1/2", 2 - 3/4"	25	64
TP290PF‡	_	4 - 3/4"	3 - 1/2", 2 - 3/4"	25	64
TP292	_	2 - 1/2", 2 - 3/4"	3 - 1/2", 2 - 3/4"	25	64
TP292PF‡	_	$2 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	3 - 1/2", 2 - 3/4"	25	64
TP292RED	_	2 - 1/2", 2 - 3/4"	3 - 1/2", 2 - 3/4"	25	64
TP294	_	4 – 1"	3 - 1/2", 2 - 3/4"	25	64
TP339	Blank Bottom	4 - 1/2"	_	25	65
Air Plenum					
TP838*	Plenum	$2 - \frac{1}{2}$ ", $2 - \frac{3}{4}$ "	$3 - \frac{1}{2}$ ". $2 - \frac{3}{4}$ "	25	62

4" OCTAGON OUTLET BOXES† - 21.5 CUBIC INCH CAPACITY

21/8" DEEP - WITH CABLE CLAMPS

FIXTURE RATED

UL LISTED







TP320





TP318

TP317

TP338

Cat. #	Description	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100				
FOR NONME	FOR NONMETALLIC CABLE								
TP316	_	4 - Cable, 2 - 1/2"	1 - 1/2"	25	68				
TP318	"C" Bracket	4 - Cable, 2 - 1/2"	1 - 1/2"	25	88				
TP320	"S" Bracket, Set 1/2"	4 - Cable, 1 - 1/2"	1 - 1/2"	25	81				
FOR ARMOR	ED & METAL CLAD (MCI) -	CABLE-CLAMPS IN EACH EN	ID						
TP317*	_	4 - Cable, 2 - 1/2"	1 - 1/2"	25	69				
TP338*	"S" Bracket, Set 1/2"	4 - Cable, 1 - 1/2"	1 - 1/2"	25	82				
TP338PF‡	"S" Bracket, Set 1/2"	4 - Cable, 1 - 1/2"	1 - 1/2"	25	82				

^{*}UL approved for use with aluminum interlocking grounding metal clad cable, Type MCIA (Southwire MCAPTM)

^{*}For Air Plenum (No Mounting Holes) - Not UL Listed ‡TP catalog numbers ending in PF includes ground screw with pigtail lead † Weight limit for 31/4" and 4" octagon outlet boxes and ceiling pans is 50lbs for fixture/luminaire. Not suitable for fans

MCAP** is a registered trademark of Southwire Company.

‡TP catalog numbers ending in PF includes ground screw with pigtail lead

† Weight limit for 3½" and 4" octagon outlet boxes and ceiling pans is 50lbs for fixture/luminaire. Not suitable for fans

TP367

Steel Octagon Covers & Accessories

4" OCTAGON BOX AND ADJUSTABLE BAR SETS - 15.5 CUBIC INCH CAPACITY

11/2" DEEP BOX SETS

FIXTURE RATED

UL LISTED

Weight Limits: 35 lbs. at 16", 15 lbs. at 24"

TP372



TP377

Unit Qty. Wt. Lbs. Per 100 Cat. # Stud Spacing Stud FOR CONDUIT - NO CLAMPS TP372* 16" - 24" Yes 25 85 FOR NONMETALLIC CABLE - WITH CLAMPS TP377 25 16" - 24" 102 FOR ARMORED & METAL CLAD (MCI) CABLE - CLAMPS IN EACH END TP367 100 100 16" - 24" 16" - 24" TP367PF+

ADJUSTABLE BAR HANGERS

UL LISTED

Features:

- Holding prong holds box in place for nailing
- Design resists bending and twisting
- Locking tabs to hold bar in position
- Weight Limits: 50 lbs. at 16"; 21 lbs. at 24"



Cat. #	Stud Spacing	Length	Stud	Unit Qty.	Wt. Lbs. Per 100
TP356	16" & 24"	14" - 221/2"	_	50	41

 $^{^4}$ " Octagon Box and Adjustable Bar Sets have % " KOs for conduit †TP catalog numbers ending in PF includes ground screw with pigtail lead

4" OCTAGON BOX COVERS - CUBIC CAPACITY (SEE BELOW) **UL LISTED**



Cat. #	Description	Capacity Cu. In.	Unit Qty.	Wt. Lbs. Per 100
TP322†	Flat Blank - Octagon Shape	_	50	22
TP322RED†	Flat Blank - Octagon Shape	_	50	22
TP323†	Flat Blank - Round Shape	_	50	24
TP333	Raised 1", Open With Ears 23/4"	7.0	25	30
TP332	Raised 1/2", Open With Ears 23/4"	3.3	50	22
TP326	Raised 5/8", Open With Ears 23/4"	3.8	50	20
TP331	Raised 3/4", Open With Ears 23/4"	5.0	50	26
TP328†	Flat With 1/2" KO - Octagon Shape	_	50	22
TP330	Raised 5/8", With 1/2" KO	3.8	50	31
TP329†	Flat With 1/2" KO - Round Shape	_	50	24
TP335	Flat, For Toggle Switch	_	50	23
TP334‡	Flat, Single Receptacle 113/32"	_	50	21
TP336	Flat, For Duplex Receptacle	_	50	18
Air Plenum				
TP853*‡	Flat, Blank With PVC Gasket	-	50	24

^{*}For Air Plenum (No Mounting Holes)

FLEXIBLE FIXTURE HANGERS

Eaton's Crouse-Hinds TPRFH flexible fixture hangers are used in commercial or light industrial applications where HID high bay and low bay lighting fixtures are used. Specific applications include storage facilities, shipping warehouses, retail and DIY facilities.

Features and Benefits:

- Suitable for use with 1/2" or 3/4" fixture conduit stems these hangers allow the conduit stem of the fixture (luminaire) to swing in any direction. Maximum swing angle is 26° from vertical max slope
- · Available for attachment to round or octagonal steel boxes.
- · Quickly and easily attached by two screws.
- $\bullet\,$ Hangers are drilled and tapped for use with $^{3}\!/_{\!4}{}^{\text{\tiny II}}$ conduit stem as standard and come supplied with a 3/4" - 1/2" reducer for 1/2" conduit stem applications.

Standard Materials and Finishes:

- Material: Sheet Steel
- Finish: Zinc Chromate for corrosion resistance



Description	Support W	/t. (lbs) Cat. #
For use with 4" Round or	50	TPRFH12

Certifications and Compliances:

- UL Listed UL 1598
- CSA C22.2 No. 250
- Suitable for Damp Locations

TP330

[†]CSA Certified ‡ Not UL Listed

Steel Specialty Boxes

4" OCTAGON CONCRETE BOXES AND HUNG CEILING BOXES* **UL LISTED**







TP620, TP622, TP628

TP635, TP636, TP644

TP623, TP624 (bars not included)

Cat. #	Depth	KNOCKOUTS	Unit Qty.	Wt. Lbs. Per 100	Capacity Cu. In.
TP620	2"	1/2" & 3/4" Single Row	25	60	23.0
TP622	21/2"	1/2" & 3/4" Single Row	25	72	29.0
TP628	3"	1/2" & 3/4" Single Row	20	85	35.0
TP634	3"	1" & 3/4" Single Row	20	77	30.3
TP635	31/2"	1/2" Double Row	20	93	43.0
TP636	31/2"	1/2" & 3/4" Double Row	20	93	43.0
TP639	31/2"	1" & 3/4" Double Row	20	89	41.0
TP642	4"	1" & 3/4" Double Row	20	106	47.0
TP644	4"	1/2" & 3/4" Double Row	20	113	47.0
HUNG CE	ILING BOXES (WITH TP650 COVER, BARS NOT IN	ICLUDED)		
TP623	31/2"	½" Double Row	20	93	43.0
TP624	31/2"	1/2" & 3/4" Double Row	20	93	43.0

"Weight limit for 4" octagon concrete boxes is 50lbs. Not suitable for fans. †Not UL Listed $\,$

4" FAN RATED OCTAGON CONCRETE BOX UL LISTED



Applications:

- Octagon concrete boxes are used in poured deck applications.
- Typical construction includes high-rises, apartments, condominiums and restaurants with outdoor dining areas.
- They are installed on wooden or steel forms and concrete poured around.
- Upon removal of the forms the box is flush with the concrete.
- It is common, and continuing to become even more so, to have ceiling fans mounted to these boxes. Because of the additional mounting support boss this new box is suitable for use with fans of up to 70 pounds and fixtures up to 90 pounds.



Features:

- 1. The TP643 fan rated concrete box is made from two piece welded construction and is supplied with two rows of $\frac{1}{2}$ & $\frac{3}{4}$ " dedicated KO's.
- 2. The box is also supplied with two external mounting ears which are used to secure the box to the forms.
- 3. The fan (or fixture) is held securely in place by the two 10-32 x 1 1/2" long pan head screws and lock washers. The screws attach to the specially designed boss.
- 4. There are two 8-32 x ½" screws provided for attachment of a box plate/cover (TP648, TP649, or TP650 ordered separately).
- Mounting support boss & locknuts allows the TP643 box to be used with fans of up to 70 pounds and fixtures up to 90 pounds.

Cat. #	Depth	KNOCKOUTS	Unit Qty.	Per 100	Cu. In.	
TP643	4"	1/2" & 3/4"	20	102	46.0	

CONCRETE BOX PLATES

UL LISTED









TP648

TP649

TP650

TP652

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100	
TP648	No Stud 3 - 1/2" & 2 - 3/4" KOs	50	28	
TP649	Flat, Blank	50	28	
TP650	3/8" Stud 2 - 1/2" & 2 - 3/4" KOs	50	33	
TP652	Single Receptacle	50	24	

Ceiling Fan Box And Supports

CEILING FAN BOXES AND SUPPORTS-CUBIC INCH CAPACITY (SEE BELOW)

UL LISTED

Weight Limits: TP261 – 35 lbs. max. for fans, 50 lbs. max. for fixture. TP301 – Fan is supported independent of outlet box, mounting screws go through box and into joist. Box will support fans up to 70 lbs. and fixtures up to 90 lbs. TP275 – 70 lbs, max. for fans, 90 lbs. max for fixtures.



KNOCKOUTS

				KNOCKOUT	ΓS			WEIGH	T LIMITS
Cat. #	Description	Stud Spacing	Cubic In. Capacity	Sides	Bottom	Unit Qty.	Wt. Lbs. Per 100	Fans	Fixtures
TP275	1½" Deep, Clamps and Mounting Screws (polybagged)	_	15.5	4 - Cable, 2 - ½"	1 - 1/2"	20	66.6	70 lbs.	90 lbs.
TP315†	11/2" Deep Octagon, Fan Box with New Work Bar Hanger	16" – 24"	15.5	2 - 1/2"	2 - 1/2"	12	192	35 lbs.	50 lbs.
TP379	1½" Deep with Fan Brace Old Work Bar Hanger	16" – 24"	15.5	4 - 1/2"	2 - 1/2"	12	207	35 lbs.	50 lbs.
TP261	5/8" Deep with External Clamp and Mounting Screws (polybagged)	_	8.0	-	2 - 1/2"	20	50	35 lbs.	50 lbs.
TP301*	7/2" Deep, 4" Round, with NM Snap-In Connector, Mtg. Screws, Protective Cover (no bag)		6.8	_	3 - 1/2"	20	51	70 lbs.*	90 lbs.*

^{*}TP301 fan is supported independent of outlet box.

[†]TP315 comes with Romex clamp installed on one side. The other 3 sides have a ½ * KO, a bagged MC clamp and screw and a bagged plastic NM connector.

Ceiling Fan Box And Supports

CEILING FAN BOXES - PVC

UL LISTED

Weight Limits: Fans and fixtures are supported independent of outlet box. Mounting screws go through box and into joist. Box will support up to 70 lbs. for fans and 90 lbs. for fixtures. Provided with Romex connector





TP1300

Cat. #	Description	Capacity Cu. In.	Knockouts	Integral Clamp	Unit Qty.	Wt. Lbs. Per 100
TP1300	41/16" diam., 1/2" deep pan section, 4" deep overall – with mtg. hardware & external clamp, protective cover	14.0	3 - 1/2"	1	24	34

NONMETALLIC CEILING FAN BOXES

23/16" DEEP

UL LISTED

With clamps for nonmetallic cable.
All mounting hardware supplied, suitable for support of fans weighing up to 35 lbs.



- Made of heavy-duty, engineered thermoplastic material
- Offers the labor-saving feature of quick entry and integral clamping
- Eliminates the need to use a screwdriver to break open pry-outs
- The easy access entry-point serves as a wire clamp, eliminating time required to mechanically secure the wire to the box

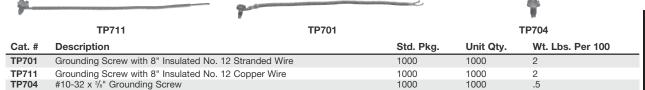




Steel Box Accessories

GROUNDING DEVICES

GROUNDING SCREW AND PIGTAIL



GROUNDING CLIP



TP706

Cat. #	Description	Std. Pkg.	Unit Qty.	Wt. Lbs. Per 100
TP706	For Grounding Switch & Outlet Boxes Using Nonmetallic Sheathed Cables No. 14 & No. 12, with Grounding Wire	1000	100	.5

OLD WORK CLIP



TP651

Cat. #	Description	Std. Pkg.	Unit Qty.	Wt. Lbs. Per 100
TP651	Clips lock old-work steel switch boxes tightly to wall. Two required per box.	250 sets	25 sets	4

REPLACEMENT PARTS







TP900 TP901 TP902

Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
TP900	MC-BX Clamp with Screws	200	17.3
TP901	One Screw Mounting Ear with Screws	200	3.2
TP902	Two Screw Mounting Ear with Screws	200	2.7

LOW PROFILE MOUNTING SCREWS



TP710

Cat. #	Description	Capacity Cu. In.	Unit Qty.	Wt. Lbs. Per 100
LOW PROFIL	E SCREWS - REDUCES F	RISK OF SHEETROCK BULGE		
TP710	L.P. Screws	_	1000	.5

HOLD-IT SWITCH BOX SUPPORTS







FIG. 1

Cat. #DescriptionUnit Qty.Wt. Lbs. Per 100TP708Two metal holders for mounting old-work switch boxes in all types of wall materials500 Sets5

SWITCH BOX EXTENSION



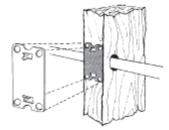
Cat.#DescriptionUnit Qty.Capacity Cu. In.Wt. Lbs. Per 100TP709*Fits snugly inside all 3" x 2" width boxes. Maximum adjustable depth 7.8".
Furnished with mounting screws.503.513

*Not UL Listed

STEEL STUD SAFETY PLATE

- Meets requirement of National Electric Code
- · Same size as face of stud
- No nails required
- Protects electrical cable and copper water pipes





Cat. #	Description	Unit Qty.	Wt. Lbs. Per 100
TP659	2" x 31/8" Steel Plate	100	11

"BACK TO BACK" BOX CONNECTOR - ZINC DIE CAST





Applications:

For use as a short raceway between two boxes Width 1.00", Length 1.12"

Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
5050	1/2"	25	8	

PVC Switch Boxes

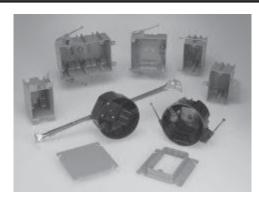
Applications:

Eaton's Crouse-Hinds non-metallic switch and outlet boxes are

- In branch circuit wiring as a splice point
- To mount wiring devices such as switches and receptacles
- To provide mechanical protection for wiring systems and electrical devices

Features:

- · Available for use with wood or metal studs to meet any construction preference.
- Quick entry feature on all non-metallic boxes offers labor savings no need to break out knockouts - simply push the non-metallic cable into the box. No tools are required. No need to remove
- Unique configuration of this quick entry feature on single gang boxes provides a self-feeding feature that eliminates the need to reach inside the box to pull the wire out.
- · Integral labor saving clamping feature on two, three and four gang boxes. The multiple gang box unique entry also serves as a clamp, eliminating the need to mechanically secure the cable inside the box. There are no separate clamps or screws to install or tighten. Each entry into the multiple gang boxes has the quick entry feature allowing the installer to simply push the cable into the box without the need for tools or removal of knockouts, so the cable can be inserted where it is required.



Certifications and Compliances:

- UL Listed File No. E102328
- · Classified for use in fire rated (2 HR) wall or ceiling. Fire Rating No. R9933.

Standard Materials:

• PVC-Polyvinyl Chloride Compound

SWITCH BOXES - ANGLED NAILS UL LISTED









	111000	111800			1P2000		1P2300	
Cat. #	Bracket or Nails	Capacity Cu. In.	н	w	D	Unit Qty.	Wt. Lbs. Per 100	
TP1600	Nails	16.0	33/4"	21/4"	21/2"	100	21	
TP1800	Nails	18.0	33/4"	21/4"	23/4"	100	23	
TP2000	Nails	20.3	33/4"	21/4"	33/16"	100	25	
TP2300	Nails	22.5	33/4"	21/4"	37/16"	50	27	

SWITCH BOXES - INTEGRAL CLAMPS UL LISTED





(Old Work)



TP2020 (For Wood or Metal Studs)



TP2030 (For Wood or Metal Studs)

Cat #	Bracket or Nails	Capacity	u	14/	D	Unit Qtv.	Wt. Lbs.
Cat. #	or nails	Cu. In.	п	W	U	Unit Qty.	Per 100
TP1690	Swing Clips & Integral Clamps	16.0	35/8"	25/16"	23/4"	50	20
TP2020	Side Bracket (5/8" offset)	20.3	311/16"	21/4"	33/16"	50	24
TP2030	Face Bracket (1/2" offset)	20.3	311/16"	21/4"	33/16"	50	24

3" DEEP SWITCH BOXES - TWO GANG

UL LISTED









(Old Work)

	113000	IPS
1		

TP3635

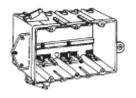
Cat. #	Bracket or Nails	Capacity Cu. In.	н	W	D	Unit Qty.	Wt. Lbs. Per 100
TP3490	Swing Clips	34.0	39/16"	4"	33/16"	25	29
TP3600	Nails	36.0	33/4"	4"	3"	25	37
TP3630*	Brackets	36.0	33/4"	4"	3"	25	37
TP3635*	Brackets & Nails	36.0	33/4"	4"	3"	25	39

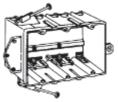
^{*}Face Bracket on PVC Boxes are offset $^1\!/_2$ unless stated otherwise

211/16" DEEP SWITCH BOXES - THREE GANG

UL LISTED







TP4600

TP4630

TP4635

	Bracket	Capacity		Wt. Lbs.
Cat. #	or Nails	Cu. In.	Unit Qty.	Per 100
TP4600	Nails	46.0	20	45
TP4630*	Brackets	46.0	20	43
TP4635*	Brackets & Nails	46.0	20	46

211/16" DEEP SWITCH BOXES - FOUR GANG

UL LISTED







TP6100

TP6135

TP6180

Cat. #	Bracket or Nails	Capacity Cu. In.	Unit Qty.	Wt. Lbs. Per 100
TP6100†	Nails	61.0	4	65
TP6135*†	Nails & Brackets	61.0	4	66
TP6180*†	Nails, Brackets & Bar Support	61.0	4	87

^{*}Face Bracket on PVC Boxes are offset $\ensuremath{^{1\!/}}_2$ " unless otherwise stated †Not 2-Hour Fire Rated

LOW VOLTAGE PARTITION - TWO, THREE OR FOUR GANG PVC



TP1000

Cat. #	Bracket or Nails	Capacity Cu. In.	Unit Qty.	Wt. Lbs. Per 100	
TP1000	_	_	20	3	

4" SQUARE WITH INTEGRAL CLAMPS - 20.3 CUBIC INCH CAPACITY

15/8" DEEP

UL LISTED



TP1900

		Capacity		Wt. Lbs.	
Cat. #	Bracket	Cu. In.	Unit Qty.	Per 100	
TP1900	-	20.3	50	26	

4" SQUARE PVC DEVICE COVERS

UL LISTED



TP1013



TP1023

		Capacity		Wt. Lbs.	
Cat. #	Raised	Cu. In.	Unit Qty.	Per 100	
TP1013	1/2"	3.8	50	8	
TP1023	1/2"	5.8	50	8	

Ceiling Boxes

31/2" NONMETALLIC CEILING BOXES - PVC

27/8" DEEP

UL LISTED

Weight limit is 50 lbs for fixture except where indicated.

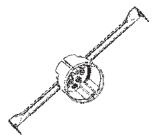
Fan support or fixture support



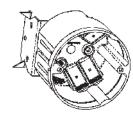
TP16200, (TP16201 – 21/8" Deep) Old Work



TP16310 TP16311



TP16307 TP16308



TP16317 TP16318

Cat. #	Clamps	Ground Plate	Bracket/Bar Hgr.	Capacity Cu. In.	No. of Clamp Openings	Std. Unit Pkg.	Wt. Lbs. Per 100
TP16200†	Yes	_	Snap	16.0	4	50	27
TP16201†	Yes	Yes	Snap	16.0	4	50	29
TP16310*	Yes	_	Nails	19.3	4	50	18
TP16311*	Yes	Yes	Nails	19.3	4	50	20
TP16307*	Yes	_	14"-22-1/2"	19.3	4	25	57
TP16308*	Vec	Ves	14"-22-1/2"	19.3	4	25	59

LAMPHOLDER



TP16099

Standard Materials:

• Plastic molded of heat and impact resistant material that prevents discoloring and reduces breakage

Cat. #	Description	Std. Unit Pkg.	Wt. Lbs. Per 100
TP16099	Lampholder, Keyless, feed thru	50	23

^{*}Nail Bracket is set $1\%^{\rm e}$ ' back from the face of the box. † Weight limit 15lbs for ceiling mounted fixtures and 6lbs for wall mounted fixtures.

4" NONMETALLIC CEILING BOXES - PVC

UL LISTED

Weight limit is 50 lbs for fixture except where indicated







TP16111, TP16110

TP16002

TP16022, TP16023

Cat. #	Clamps	Ground Plate	Bracket/Bar Hgr.	Capacity Cu. In.	No. of Cable Pry-outs	Std. Unit Pkg.	Wt. Lbs. Per 100
11/2" DEEP							
TP16002	Yes	_	_	14.8	4	50	12
TP16022	Yes	_	14"–16"	14.8	4	25	56
TP16023	Yes	Yes	14"–16"	14.8	4	25	58
21/4" DEEP							
TP16111	Yes	_	Nails	20.3	4	50	19
TP16110	Yes	Yes	Nails	22.5	4	50	21
TP16122	Yes	_	14"-16"	20.8	4	20	59
TP16123	Yes	Yes	14"–16"	20.8	4	20	61

NONMETALLIC CEILING FAN BOXES

23/16" DEEP

UL LISTED

With clamps for nonmetallic cable.

All mounting hardware supplied, suitable for support of fans weighing up to 35 lbs.

Made of heavy-duty, engineered thermoplastic material

Offers the labor-saving feature of quick entry and integral clamping Eliminates the need to use a screwdriver to break open pry-outs

The easy access entry-point serves as a wire clamp, eliminating time required to mechanically secure the wire to the box



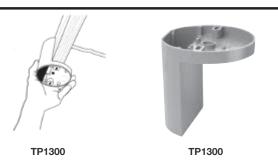
TP16511

Cat. #	Diameter	Mounting Method	Capacity Cu. In.	No. of Clamp Openings	Unit Qty.	Wt. Lbs. Per 100
TP16511	4"	Nails only	22.5	6	25	21

Ceiling Boxes

CEILING FAN BOXES - PVC UL LISTED

Weight Limits: Fans and fixtures are supported independent of outlet box. Mounting screws go through box and into joist. Box will support up to 70 lbs. for fans and 90 lbs. for fixtures. Provided with Romex connector



Cat.# Description Capacity Cu. In. Knockouts Integral Clamp Std. Unit Pkg. Wt. Lbs. Per 100

Clamp, ye* deep pan section, 4" deep
overall – with mtg. hardware & external clamp, protective cover

ROUND BLANK COVER - PVC

43/4" DIA.

(FOR 31/2" AND 4" ROUND CEILING BOXES)



TP1040, TP1045

Cat. #	Color	Screws	Std. Unit Pkg.	Wt. Lbs. Per 100	
TP1040	Gray	_	100	10	
TP1045*	White	White	100	12	

^{*}TP1045 includes two white-headed wood and two #8-32" machine screws.

Giving you the convenience of a pre-fabricated product-plus the flexibility to accommodate job-site requirements.

Contractors are continually looking for ways to improve job site efficiency and properly align skilled resources to meet tight commercial construction project deadlines. PRE-formanceTM delivers the pre-engineered and pre-assembled combination of mounting method, outlet box, plaster ring, devices and leads to simplify branch wiring installation.

Certifications and Compliances:

- UL Listed and cUL Listed
- UL File No. E-23156





Basic

- Available with the most popular drawn and welded boxes with ground screw and pigtail lead already installed
- Patented Uni-Mount™ cover combines plaster ring and mounting method
- Standard pre-fabricated assemblies with mounting brackets, boxes, mud rings, ground screw and pigtail leads
- Available from stock

Custom

- Cafeteria style selection of Eaton's Crouse-Hinds extensive line of mounting brackets, boxes, plaster rings, wiring devices, push-in connectors, and other associated branch wiring accessories
- Assembled-to-order pre-fabricated products for both AC/MC and EMT applications
- Can be ordered with devices, customer specified connectors, and cable whips attached to suit almost any customer application
- Assembled from stock components to meet tight job requirements

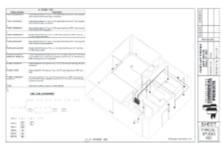
Complete

- The most complete turn-key solution for commercial construction projects. The process begins with your architectural and electrical engineering drawings and delivers a total pre-fabricated branch wiring system: custom produced, labeled, packaged by room and floor, and delivered to your exact location.
- Ideal for hotel projects, assisted living facilities, dormitories, barracks and office buildings.
- Job specific labeling included with every cable run indicates starting position, ending
 position, device and mounting type, cable size, length, path, drawing number and date.
- Safe, secure transmission of drawings to secure file exchange server where our technical team completes a preliminary take-off analysis.
- Innovative PRE-formance products are designed by contractors for contractors to give you the ease of wiring and job site flexibility to get the job done right and on-time!
- Includes mounting brackets and open back boxes that are designed with prefabrication, productivity and job site speed in mind.
- Contractors can realize 30 to 40% labor savings over traditional "stick-build" wiring methods for greatly improved jobsite efficiency.









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PRE-formance[™]

Basic Assemblies

Uni-Mount™ Assemblies

Eaton's Crouse-Hinds Pre-Fabricated Boxes take labor savings to a whole new level! Includes the Uni-Mount™ cover attached to a 4" square box with ground screw and lead installed.

Step 1 – Receive Uni-Mount™ Pre-Fabricated Box (Includes Uni-Mount cover attached to box with ground screw + lead installed)

Step 2 - Attach to wood or metal stud. You're done!

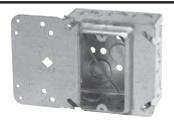
UL and cUL Listed UL File No. E-23156





Pre-Fabricated Box Features:

- Uni-Mount provides a secure box support and features a built-in plaster ring
- Can be field assembled with outlet box for power applications or used without a box for low voltage applications
- Pre-fabricated Uni-Mount is available with most popular outlet boxes with a choice of ½", 5/s" or 3/4" raised cover and includes ground screw and lead
- Rigid bracket design eliminates the need for far-side support
- · Guide tabs ensure alignment on studs



Uni-Mount Features:

- Uni-Mount combines the features of a mounting device plate with those of a box support, giving you one universal plate for all of your needs. Specifically designed for use with metal or wood studs.
- New and improved Uni-Mount incorporates four small holes on the left side (support side) of the bracket. These holes allow for the attachment of box mounting brackets to allow for use of both sides of the stud. The holes are strategically located to accept either the B-Line BB423 bracket. Additionally, the viewing hole has been significantly enlarged (and is now diamond shaped) to make it even easier to find mark lines on the stud.





TP404 1½" Deep – Welded 22.0" Cubic Capacity



TP403 2¹/₈" Deep – Welded 30.3" Cubic Capacity



TP414
11/2" Deep - Drawn
21.0" Cubic Capacity



21/8" Deep - Welded 30.3" Cubic Capacity



TP436 2¹/₈" Deep – Welded 30.3" Cubic Capacity

Cat. #	Description Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly	Capacity Cu. In.	Unit Qty.	Wt. Lbs. Per 100
For Conduit				
TP30404PF	11/2" Deep Welded Box, 1/2" Raised Single Gang Uni-Mount Cover, ground screw and lead	25.8	25	115
TP30414PF	11/2" Deep Drawn Box, 1/2" Raised Single Gang Uni-Mount Cover, ground screw and lead	24.8	25	110
TP31404PF	11/2" Deep Welded Box, 5/8" Raised Single Gang Uni-Mount Cover, ground screw and lead	26.3	25	118
TP31414PF	11/2" Deep Drawn Box, 5/8" Raised Single Gang Uni-Mount Cover, ground screw and lead	25.3	25	113
TP32404PF	11/2" Deep Welded Box, 3/4" Raised Single Gang Uni-Mount Cover, ground screw and lead	27.5	25	122
TP32414PF	11/2" Deep Drawn Box, 3/4" Raised Single Gang Uni-Mount Cover, ground screw and lead	26.5	25	117
TP35404PF	11/2" Deep Welded Box, 1/2" Raised Two Gang Uni-Mount Cover, ground screw and lead	28.0	25	110
TP35414PF	11/2" Deep Drawn Box, 1/2" Raised Two Gang Uni-Mount Cover, ground screw and lead	27.0	25	105
TP36404PF	11/2" Deep Welded Box, 5/8" Raised Two Gang Uni-Mount Cover, ground screw and lead	30.0	25	124
TP36414PF	11/2" Deep Drawn Box, 5/8" Raised Two Gang Uni-Mount Cover, ground screw and lead	29.0	25	119
TP37404PF	11/2" Deep Welded Box, 3/4" Raised Two Gang Uni-Mount Cover, ground screw and lead	31.0	25	126
TP37414PF	11/2" Deep Drawn Box, 3/4" Raised Two Gang Uni-Mount Cover, ground screw and lead	30.0	25	121
TP30403PF	21/s" Deep Welded Box, 1/2" Raised Single Gang Uni-Mount Cover, ground screw and lead	34.1	25	107
TP30434PF	21/s" Deep Drawn Box, 1/2" Raised Single Gang Uni-Mount Cover, ground screw and lead	34.1	25	127
TP31403PF	21/s" Deep Welded Box, 5/s" Raised Single Gang Uni-Mount Cover, ground screw and lead	34.6	25	110
TP31434PF	21/s" Deep Drawn Box, 5/s" Raised Single Gang Uni-Mount Cover, ground screw and lead	34.6	25	130
TP31436PF	21/s" Deep Welded Box, 5/s" Raised Single Gang Uni-Mount Cover, ground screw and lead	26.3	25	130
TP32403PF	21/s" Deep Welded Box, 3/4" Raised Single Gang Uni-Mount Cover, ground screw and lead	35.8	25	114
TP32434PF	21/s" Deep Drawn Box, 3/4" Raised Single Gang Uni-Mount Cover, ground screw and lead	35.8	25	134
TP35403PF	21/s" Deep Welded Box, 1/2" Raised Two Gang Uni-Mount Cover, ground screw and lead	36.3	25	102
TP35434PF	21/s" Deep Drawn Box, 1/2" Raised Two Gang Uni-Mount Cover, ground screw and lead	36.3	25	122
TP36403PF	21/s" Deep Welded Box, 5/s" Raised Two Gang Uni-Mount Cover, ground screw and lead	38.3	25	116
TP36434PF	21/s" Deep Drawn Box, 5/s" Raised Two Gang Uni-Mount Cover, ground screw and lead	38.3	25	136
TP37403PF	21/s" Deep Welded Box, 3/4" Raised Two Gang Uni-Mount Cover, ground screw and lead	39.3	25	118
TP37434PF	21/8" Deep Drawn Box, 3/4" Raised Two Gang Uni-Mount Cover, ground screw and lead	39.3	25	138

Basic Assemblies

	Description	Capacity	Unit	Wt. Lbs.
Cat. #	Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly	Cu. In.	Qty.	Per 100
For AC/MC C	Cable			
TP30454PF	11/2" Deep Welded Box assembled to 1/2" Raised Single Gang Uni-Mount Cover	24.8	25	114
TP31454PF	11/2" Deep Welded Box assembled to 5/4" Raised Single Gang Uni-Mount Cover	25.3	25	117
TP32454PF	11/2" Deep Welded Box assembled to 3/4" Raised Single Gang Uni-Mount Cover	26.5	25	121
TP35454PF	11/2" Deep Welded Box assembled to 1/2" Raised Two Gang Uni-Mount Cover	27.0	25	109
TP36454PF	11/2" Deep Welded Box assembled to 5/8" Raised Two Gang Uni-Mount Cover	29.0	25	123
TP37454PF	11/2" Deep Welded Box assembled to 3/4" Raised Two Gang Uni-Mount Cover	30.0	25	125
TP30431PF	21/8" Deep Welded Box assembled to 1/2" Raised Single Gang Uni-Mount Cover	34.1	25	134
TP31431PF	21/s" Deep Welded Box assembled to 5/s" Raised Single Gang Uni-Mount Cover	34.6	25	137
TP32431PF	21/8" Deep Welded Box assembled to 3/4" Raised Single Gang Uni-Mount Cover	35.8	25	141
TP35431PF	21/8" Deep Welded Box assembled to 1/2" Raised Two Gang Uni-Mount Cover	36.3	25	129
TP36431PF	21/8" Deep Welded Box assembled to 5/8" Raised Two Gang Uni-Mount Cover	38.3	25	143
TP37431PF	21/s" Deep Welded Box assembled to 3/4" Raised Two Gang Uni-Mount Cover	39.3	25	145





Open Back Box

Innovative Open Back Boxes maximize working area to reduce wiring time and eliminate interference problems. Eliminates the need for disassembly at the job site. All open back box assemblies are shipped with TP472 flat, blank back covers.

Cat. #	Description Pre-Fabricated Open Back Box, Cover, Ground Screw and Lead Assembly	Capacity Cu. In.	Unit Qty.	Wt. Lbs. Per 100
For Conduit				
TP3040DPF	2 1/8" Deep Welded Open Back Box, 1/2" Raised Single Gang Uni-Mount Cover, ground screw, lead, and back cover	34.1	25	107
TP3140DPF	2 ½ "Deep Welded Open Back Box, ½ "Raised Single Gang Uni-Mount Cover, ground screw, lead, and back cover	34.1	25	110
TP3240DPF	2 1/8 ^{II} Deep Welded Open Back Box, 3/4 ^{II} Raised Single Gang Uni-Mount Cover, ground screw, lead, and back cover	34.1	25	114
TP3540DPF	2 1/s " Deep Welded Open Back Box, 1/2" Raised Two Gang Uni-Mount Cover, ground screw, lead, and back cover	34.1	25	112
TP3640DPF	2 1/s " Deep Welded Open Back Box, 5/s" Raised Two Gang Uni-Mount Cover, ground screw, lead, and back cover	34.1	25	116
TP3740DPF	2 1/s if Deep Welded Open Back Box, 3/4" Raised Two Gang Uni-Mount Cover, ground screw, lead, and back cover	34.1	25	118

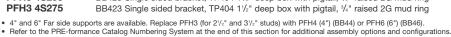
Additional Uni-Mount / box configurations available. Consult factory for details. Remove the PF for boxes without ground screw and lead. For stranded wire replace PF with PFA

Single Sided, Floor Mount, Telescoping Slider Multi-Mount, **Open Bracket and T-Bar Assemblies**

Single Sided Assemblies

Single Sided Direct Mount Assemblies - all catalog numbers contain a single sided direct mount bracket (for 2½" and 3½" studs), 4" square steel box, mud ring, and 8" insulated solid ground wire with ground screw

Cat. #	Description Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly
PFH3 40D58	BB423 Single sided bracket, Open back 21/8" deep box with pigtail, 5/8" raised 1G mud ring
PFH3 40D75	BB423 Single sided bracket, Open back 21/8" deep box with pigtail, 3/4" raised 1G mud ring
PFH3 40DAR*	BB423 Single sided bracket, Open back 21/8" deep box with pigtail, Adjustable 1G mud ring
PFH3 4D58	BB423 Single sided bracket, TP403 21/8" deep box with pigtail, 5/8" raised 1G mud ring
PFH3 4D75	BB423 Single sided bracket, TP403 21/8" deep box with pigtail, 3/4" raised 1G mud ring
PFH3 4DAR*	BB423 Single sided bracket, TP403 21/8" deep box with pigtail, Adjustable 1G mud ring
PFH3 4S58	BB423 Single sided bracket, TP404 11/2" deep box with pigtail, 5/8" raised 1G mud ring
PFH3 4S75	BB423 Single sided bracket, TP404 11/2" deep box with pigtail, 3/4" raised 1G mud ring
PFH3 40D258	BB423 Single sided bracket, Open back 21/8" deep box with pigtail, 5/8" raised 2G mud ring
PFH3 40D275	BB423 Single sided bracket, Open back 21/8" deep box with pigtail, 3/4" raised 2G mud ring
PFH3 4D258	BB423 Single sided bracket, TP403 21/8" deep box with pigtail, 5/8" raised 2G mud ring
PFH3 4D275	BB423 Single sided bracket, TP403 21/8" deep box with pigtail, 3/4" raised 2G mud ring
PFH3 4S258	BB423 Single sided bracket, TP404 11/2" deep box with pigtail, 5/8" raised 2G mud ring





UL and cUL Listed UL File No. E-324733





Double Sided Assemblies

PFH3 4S275

Double Sided Direct Mount Assemblies - all catalog numbers contain a double sided direct mount bracket (for 21/2" and 31/2" studs), 4" square steel box, mud ring, and 8" insulated solid ground wire with ground screw

Cat. #	Description Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly
PF3DS 40D58	BB73 Double sided bracket, Open back 21/8" deep box with pigtail, 5/8" raised 1G mud ring
PF3DS 40D75	BB73 Double sided bracket, Open back 21/8" deep box with pigtail, 3/4" raised 1G mud ring
PF3DS 40DAR*	BB73 Double sided bracket, Open back 21/8" deep box with pigtail, Adjustable 1G mud ring
PF3DS 4D58	BB73 Double sided bracket, TP403 21/8" deep box with pigtail, 5/8" raised 1G mud ring
PF3DS 4D75	BB73 Double sided bracket, TP403 21/8" deep box with pigtail, 3/4" raised 1G mud ring
PF3DS 4DAR*	BB73 Double sided bracket, TP403 21/8" deep box with pigtail, Adjustable 1G mud ring
PF3DS 4S58	BB73 Double sided bracket, TP404 11/2" deep box with pigtail, 5/8" raised 1G mud ring
PF3DS 4S75	BB73 Double sided bracket, TP404 11/2" deep box with pigtail, 3/4" raised 1G mud ring
PF3DS 40D258	BB73 Double sided bracket, Open back 21/8" deep box with pigtail, 5/8" raised 2G mud ring
PF3DS 40D275	BB73 Double sided bracket, Open back 21/8" deep box with pigtail, 3/4" raised 2G mud ring
PF3DS 4D258	BB73 Double sided bracket, TP403 21/8" deep box with pigtail, 5/8" raised 2G mud ring
PF3DS 4D275	BB73 Double sided bracket, TP403 21/8" deep box with pigtail, 3/4" raised 2G mud ring
PF3DS 4S258	BB73 Double sided bracket, TP404 11/2" deep box with pigtail, 5/8" raised 2G mud ring
PF3DS 4S275	BB73 Double sided bracket, TP404 11/2" deep box with pigtail, 3/4" raised 2G mud ring

- 4" and 6" Far side supports are available. Replace PF3DS (for 21/z" and 31/z" studs) with PF4DS (4") (BB44) or PF6DS (6") (BB46).
- Refer to the PRE-formance Catalog Numbering System at the end of this section for additional assembly options and configurations.

*Not UL Listed. All components are third party certified.

Floor Mount Assemblies

Floor Mount Assemblies - all catalog numbers contain a 18" floor mount bracket, 4" square steel box, mud ring, and 8" insulated solid ground wire with ground screw

Cat. #	Description Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly
PF18FM 40D58	BBF18 Floor mount bracket, Open back 21/8" deep box with pigtail, 5/8" raised 1G mud ring
PF18FM 40D75	BBF18 Floor mount bracket, Open back 21/8" deep box with pigtail, 3/4" raised 1G mud ring
PF18FM 40DAR*	BBF18 Floor mount bracket, Open back 21/8" deep box with pigtail, Adjustable 1G mud ring
PF18FM 4D58	BBF18 Floor mount bracket, TP403 21/8" deep box with pigtail, 5/8" raised 1G mud ring
PF18FM 4D75	BBF18 Floor mount bracket, TP403 21/8" deep box with pigtail, 3/4" raised 1G mud ring
PF18FM 4DAR*	BBF18 Floor mount bracket, TP403 21/8" deep box with pigtail, Adjustable 1G mud ring
PF18FM 4S58	BBF18 Floor mount bracket, TP404 11/2" deep box with pigtail, 5/8" raised 1G mud ring
PF18FM 4S75	BBF18 Floor mount bracket, TP404 11/2" deep box with pigtail, 3/4" raised 1G mud ring
PF18FM 40D258	BBF18 Floor mount bracket, Open back 21/8" deep box with pigtail, 5/8" raised 2G mud ring
PF18FM 40D275	BBF18 Floor mount bracket, Open back 21/8" deep box with pigtail, 3/4" raised 2G mud ring
PF18FM 4D258	BBF18 Floor mount bracket, TP403 21/8" deep box with pigtail, 5/8" raised 2G mud ring
PF18FM 4D275	BBF18 Floor mount bracket, TP403 21/8" deep box with pigtail, 3/4" raised 2G mud ring
PF18FM 4S258	BBF18 Floor mount bracket, TP404 11/2" deep box with pigtail, 5/8" raised 2G mud ring
PF18FM 4S275	BBF18 Floor mount bracket, TP404 11/2" deep box with pigtail, 3/4" raised 2G mud ring

[·] Refer to the PRE-formance Catalog Numbering System at the end of this section for additional assembly options and configurations. *Not UL Listed. All components are third party certified.



UL and cUL Listed UL File No. E-324733



UL and cUL Listed UL File No. E-324733







Single Sided, Floor Mount, Telescoping Slider Multi-Mount, Open Bracket and T-Bar Assemblies

Telescoping Slider Assemblies

Telescoping Slider Assemblies - all catalog numbers contain a 11-18" telescoping slider bracket, 4" square steel box, mud ring, and 8" insulated solid ground wire with ground screw

UL and cUL Listed
UL File No. E-324733

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Cat. #	Description Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly
PF16TS 4D58	BB216TS Telescoping slider bracket, TP403 21/8" deep box with pigtail, 5/8" raised 1G mud ring
PF16TS 4D75	BB216TS Telescoping slider bracket, TP403 21/s" deep box with pigtail, 3/4" raised 1G mud ring
PF16TS 4DAR	BB216TS Telescoping slider bracket, TP403 21/6" deep box with pigtail, Adjustable 1G mud ring
PF16TS 4S58	BB216TS Telescoping slider bracket, TP404 11/2" deep box with pigtail, 5/8" raised 1G mud ring
PF16TS 4S75	BB216TS Telescoping slider bracket, TP404 11/2" deep box with pigtail, 3/4" raised 1G mud ring
PF16TS 4D258	BB216TS Telescoping slider bracket, TP403 21/8" deep box with pigtail, 5/8" raised 2G mud ring
PF16TS 4D275	BB216TS Telescoping slider bracket, TP403 21/8" deep box with pigtail, 3/4" raised 2G mud ring
PF16TS 4D2AR	BB216TS Telescoping slider bracket, TP403 21/8" deep box with pigtail, adjustable 2G mud ring
PF16TS 4S258	BB216TS Telescoping slider bracket, TP404 11/2" deep box with pigtail, 5/8" raised 2G mud ring
PF16TS 4S275	BB216TS Telescoping slider bracket, TP404 11/2" deep box with pigtail, 3/4" raised 2G mud ring

- 15"-26" Telescoping Slider Assemblies are available. Replace PF16TS (BB216TS) with PF24TS (BB224TS).
- Refer to the PRE-formance Catalog Numbering System at the end of this section for additional assembly options and configurations.

Multi-Mount Assemblies

Multi-Mount Assemblies - all catalog numbers contain a 16" stud spanning multiple mount bracket. Each position may contain a 4" square steel box, mud ring, and 8" insulated solid ground wire with ground screw

UL and cUL Listed UL File No. E-324733







Cat. #	Description Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly
PF3MM 4D58 X X	BB816 Multiple box bracket, 1st Position TP403 21/8" deep box with pigtail, 5/8" raised 1G mud ring, 2nd and 3rd positions open
PF3MM 4D75 X X	BB816 Multiple box bracket, 1st Position TP403 21/8" deep box with pigtail, 3/8" raised 1G mud ring, 2nd and 3rd positions open
PF3MM 4D258 X X	BB816 Multiple box bracket, 1st Position TP403 21/8" deep box with pigtail, 5/8" raised 2G mud ring, 2nd and 3rd positions open
PF3MM 4D275 X X	BB816 Multiple box bracket, 1st Position TP403 21/8" deep box with pigtail, 1/8" raised 2G mud ring, 2nd and 3rd positions open
PF3MM 4D58 5DN58 X	BB816 Multiple box bracket, 1st Position TP403 2½," deep box with pigtail, 5½," raised 1G mud ring, 2nd position TP525 4½," Square 2½ Deep box, 5½," raised 1G mud ring, no pigtail, 3rd position open
PF3MM 4D75 5DN75 X	BB816 Multiple box bracket, 1st Position TP403 2½" deep box with pigtail, ¾" raised 1G mud ring, 2nd position TP525 4½" Square 2½ Deep box, ¾" raised 1G mud ring, no pigtail, 3rd position open
PF3MM 4D258 5DN58 X	BB816 Multiple box bracket, 1st Position TP403 2½" deep box with pigtail, 5½" raised 2G mud ring, 2nd position TP525 4½". Square 2½ Deep box, 5½" raised 1G mud ring, no pigtail, 3rd position open
PF3MM 4D275 5DN75 X	BB816 Multiple box bracket, 1st Position TP403 2½" deep box with pigtail, ¾" raised 2G mud ring, 2nd position TP525 4½". Square 2½ Deep box, ¾" raised 1G mud ring, no pigtail, 3rd position open
PF3MM 40D58 X X	BB816 Multiple box bracket, 1st Position Open back 21/8" deep box with pigtail, 5/8" raised 1G mud ring, 2nd and 3rd positions open
PF3MM 40D75 X X	BB816 Multiple box bracket, 1st Position Open back 21/8" deep box with pigtail, 3/4" raised 1G mud ring, 2nd and 3rd positions open
PF3MM 40D258 X X	BB816 Multiple box bracket, 1st Position Open back 21/16" deep box with pigtail, 5/16" raised 2G mud ring, 2nd and 3rd positions open
PF3MM 40D275 X X	BB816 Multiple box bracket, 1st Position Open back 21/16" deep box with pigtail, 1/14" raised 2G mud ring, 2nd and 3rd positions open
PF3MM 40D58 5DN58 X	BB816 Multiple box bracket, 1st Position Open back 21/s" deep box with pigtail, 5/s" raised 1G mud ring, 2nd position TP525 411/s" Square 21/s Deep box, 5/s" raised 1G mud ring, no pigtail, 3rd position open
PF3MM 40D75 5DN75 X	BB816 Multiple box bracket, 1st Position Open back 21/6" deep box with pigtail, 1/4" raised 1G mud ring, 2nd position TP525 411/16" Square 21/6 Deep box, 1/4" raised 1G mud ring, no pigtail, 3rd position open
PF3MM 40D258 5DN58 X	BB816 Multiple box bracket, 1st Position Open back 2'/s" deep box with pigtail, 5/s" raised 2G mud ring, 2nd position TP525 41'/s" Square 2'/s Deep box, 5/s" raised 1G mud ring, no pigtail, 3rd position open
PF3MM 40D275 5DN75 X	BB816 Multiple box bracket, 1st Position Open back 21/6" deep box with pigtail, 3/4" raised 2G mud ring, 2nd position TP525 411/16" Square 21/16 Deep box, 3/4" raised 1G mud ring, no pigtail, 3rd position open

Refer to the PRE-formance Catalog Numbering System at the end of this section for additional assembly options and configurations.

Single Sided, Floor Mount, Telescoping Slider Multi-Mount, Open Bracket and T-Bar Assemblies

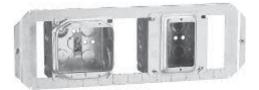
Open Bracket Assemblies

Open Bracket Assemblies - all catalog numbers contain a 16" stud spanning open bracket. Each position may contain a 4" square steel box, mud ring, and 8" insulated solid ground wire with ground screw

UL and cUL Listed UL File No. E-324733







Cat. #	Description Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly
PF16BO 4D58 X X	BB716 Open bracket, 1st Position TP403 21/s" deep box with pigtail, 1/s raised 1G mud ring, 2nd and 3rd positions open
PF16BO 4D75 X X	BB716 Open bracket, 1st Position TP403 21/s" deep box with pigtail, 3/4" raised 1G mud ring, 2nd and 3rd positions open
PF16BO 4D258 X X	BB716 Open bracket, 1st Position TP403 21/s" deep box with pigtail, 5/s" raised 2G mud ring, 2nd and 3rd positions open
PF16BO 4D275 X X	BB716 Open bracket, 1st Position TP403 21/s" deep box with pigtail, 3/s" raised 2G mud ring, 2nd and 3rd positions open
PF16BO 4D58 5DN58 X	BB716 Open bracket, 1st Position TP403 21/8" deep box with pigtail, %8" raised 1G mud ring, 2nd position TP525 411/16" Square 21/8 Deep box, 5/8" raised 1G mud ring, no pigtail, 3rd position open
PF16BO 4D75 5DN75 X	BB716 Open bracket, 1st Position TP403 21/8" deep box with pigtail, 1/8" raised 1G mud ring, 2nd position TP525 41/1/16" Square 21/8 Deep box, 1/8" raised 1G mud ring, no pigtail, 3rd position open
PF16BO 4D258 5DN58 X	BB716 Open bracket, 1st Position TP403 21/6" deep box with pigtail, 5/6" raised 2G mud ring, 2nd position TP525 411/16" Square 21/16 Deep box, 5/6" raised 1G mud ring, no pigtail, 3rd position open
PF16BO 4D275 5DN75 X	BB716 Open bracket, 1st Position TP403 21/8" deep box with pigtail, 1/8" raised 2G mud ring, 2nd position TP525 4"1/18" Square 21/8 Deep box, 1/8" raised 1G mud ring, no pigtail, 3rd position open
PF16BO 40D58 X X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 5/6" raised 1G mud ring, 2nd and 3rd positions open
PF16BO 40D75 X X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 3/4" raised 1G mud ring, 2nd and 3rd positions open
PF16BO 40D258 X X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 5/6" raised 2G mud ring, 2nd and 3rd positions open
PF16BO 40D275 X X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 3/4" raised 2G mud ring, 2nd and 3rd positions open
PF16BO 40D58 5DN58 X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 5/6" raised 1G mud ring, 2nd position TP525 411/16" Square 21/6 Deep box, 5/6" raised 1G mud ring, no pigtail, 3rd position open
PF16BO 40D75 5DN75 X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 3/4" raised 1G mud ring, 2nd position TP525 411/16" Square 21/6 Deep box, 3/4" raised 1G mud ring, no pigtail, 3rd position open
PF16BO 40D258 5DN58 X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 5/6" raised 2G mud ring, 2nd position TP525 411/66" Square 21/6 Deep box, 5/6" raised 1G mud ring, no pigtail, 3rd position open
PF16BO 40D275 5DN75 X	BB716 Open bracket, 1st Position Open back 21/6" deep box with pigtail, 3/4" raised 2G mud ring, 2nd position TP525 411/16" Square 21/6 Deep box, 3/4" raised 1G mud ring, no pigtail, 3rd position open

Refer to the PRE-formance Catalog Numbering System at the end of this section for additional assembly options and configurations.

T-Bar Assemblies

T-Bar Assemblies - all catalog numbers contain BA50 T-Bar fastener, 4" square or octagon box

UL and cUL Listed UL File No. E-324733

Cat. #









Pre-Fabricated Box, Cover, Ground Screw and Lead Assembly

PFBH24 4SN	BA50 Bar hanger, TP404 11/2" deep box
PFBH24 4DN	BA50 Bar hanger, TP403 21/8" deep box
PFBH24 278N	BA50 Bar hanger, TP278 11/2" deep octagon box
PFBH24 292N	BA50 Bar hanger, TP292 21/8" deep octagon box

Uni-Mount™ Assemblies with Wiring Devices

Eaton's Crouse-Hinds PRE-formance Uni-Mount Assemblies - all catalog numbers contain a Uni-Mount cover (TP31000-37000), 4" square open back box, an 8" insulated solid box ground wire, one or two pre-wired Eaton's Wiring Devices with leads, push-in connectors, and device protect plates.



Uni-Mount assemblies with wiring devices are shipped standard with open back boxes. Open back boxes maximize the working area to reduce wiring time and eliminate interference problems. They virtually eliminate the need for disassembly at the job site. Open back boxes are available in either 1½" or 2½" deep with ½ & ¾ eccentric knockouts. All 4" square open back box assemblies are shipped with TP472 flat, blank back covers.



All assemblies are shown with ivory colored devices. At the end of the catalog number, replace the "V" with "W" for white colored device. Other device colors and types are available. Consult factory for details.

UL and cUL Listed UL File No. E324733





Commonly ordered catalog examples are listed below

See Uni-Mount assembly catalog numbering system at the end of the Uni-Mount assembly pages for more information on how to construct catalog numbers for almost any customer application

Duplex Receptacle





Commercial Grade Receptacle	Industrial Grade Receptacle	Hospital Grade Receptacle		
Assembly Catalog Number with CR20V Commercial Grade 20A Duplex Receptacle Installed	Assembly Catalog Number with 5362V Industrial Grade 20A Duplex Receptacle Installed	Assembly Catalog Number with 8300V Hospital Grade 20A Duplex Receptacle Installed	4" Square Steel Open Back Box	Uni-Mount
Single 20A Duplex Red	ceptacle			
TP3140D C20DV TP3140S C20DV TP3240D C20DV TP3240S C20DV	TP3140D I20DV TP3140S I20DV TP3240D I20DV TP3240S I20DV	TP3140D H20DV TP3140S H20DV TP3240D H20DV TP3240S H20DV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" Single Gang 5/8" Single Gang 3/4" Single Gang 3/4" Single Gang
Double 20A Duplex Re	eceptacle			
TP3640D C20DDV TP3640S C20DDV TP3740D C20DDV TP3740S C20DDV	TP3640D I20DDV TP3640S I20DDV TP3740D I20DDV TP3740S I20DDV	TP3640D H20DDV TP3640S H20DDV TP3740D H20DDV TP3740S H20DDV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" Two Gang 5/8" Two Gang 3/4" Two Gang 3/4" Two Gang

Specification Grade GFCI Receptacle	Hospital Grade GFCI Receptacle		
Assembly Catalog Number with VGF20 Specification Grade 20A GFCI Receptacle Installed	Assembly Catalog Number with VGFH20V Hospital Grade 20A GFCI Receptacle Installed	4" Square Steel Open Back Box	Uni-Mount
Single 20A GFCI Receptacle			
TP3140D S20GV	TP3140D H20GV	21/8" Deep	5/8" Single Gang
TP3140S S20GV	TP3140S H20GV	11/2" Deep	5/₃" Single Gang
TP3240D S20GV	TP3240D H20GV	21/8" Deep	3/4" Single Gang
TP3240S S20GV	TP3240S H20GV	11/2" Deep	3/4" Single Gang
Double 20A GFCI Receptacle			
TP3640D S20GGV	TP3640D H20GGV	21/8" Deep	5/₃" Two Gang
TP3640S S20GGV	TP3640S H20GGV	11/2" Deep	%" Two Gang
TP3740D S20GGV	TP3740D H20GGV	21/8" Deep	3/4" Two Gang
TP3740S S20GGV	TP3740S H20GGV	11/2" Deep	3/4" Two Gang

GFCI Receptacle





Uni-Mount™ Assemblies with Wiring Devices

Commonly ordered catalog examples are listed below

See Uni-Mount assembly catalog numbering system at the end of the Uni-Mount assembly pages for more information on how to construct catalog numbers for almost any customer application

Single Pole Switch





Three Way Switch



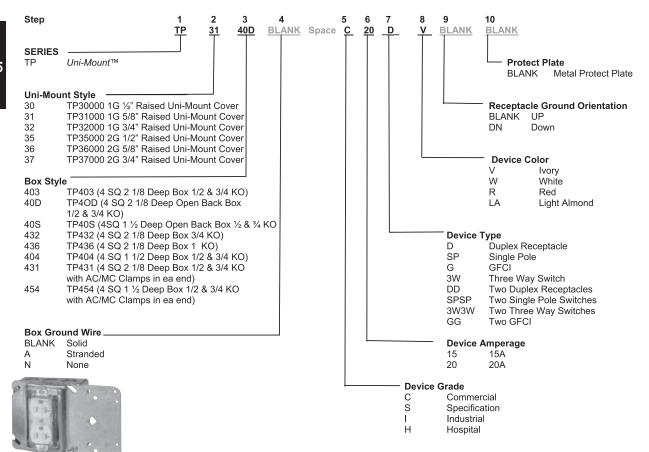


Commercial Grade Single Pole Switch	Industrial Grade Single Pole Switch		
Assembly Catalog Number with CS120V Commercial Grade 20A Single Pole Switch Installed	Assembly Catalog Number with AH1221V Industrial Grade 20A Single Pole Switch Installed	4" Square Steel Open Back Box	Uni-Mount
Single 20A Single Pole Switch	ch .		
TP3140D C20SPV TP3140S C20SPV TP3240D C20SPV TP3240S C20SPV	TP3140D I20SPV TP3140S I20SPV TP3240D I20SPV TP3240S I20SPV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/s" Single Gang 5/s" Single Gang 3/4" Single Gang 3/4" Single Gang
Double 20A Single Pole Swit	ch		
TP3640D C20SPSPV TP3640S C20SPSPV TP3740D C20SPSPV TP3740S C20SPSPV	TP3640D I20SPSPV TP3640S I20SPSPV TP3740D I20SPSPV TP3740S I20SPSPV	21/ ₈ " Deep 11/ ₂ " Deep 21/ ₈ " Deep 11/ ₂ " Deep	5/8" Two Gang 5/8" Two Gang 3/4" Two Gang 3/4" Two Gang
Commercial Grade Three Way Switch	Industrial Grade Three Way Switch		
• • • • • • • • • • • • • • • • • • • •		4" Square Steel Open Back Box	Uni-Mount
Three Way Switch Assembly Catalog Number with CS320V Commercial Grade 20A Three Way	Three Way Switch Assembly Catalog Number with AH1223V Industrial Grade 20A Three Way Switch Installed	Steel Open	Uni-Mount
Three Way Switch Assembly Catalog Number with CS320V Commercial Grade 20A Three Way Switch Installed	Three Way Switch Assembly Catalog Number with AH1223V Industrial Grade 20A Three Way Switch Installed	Steel Open	Uni-Mount 5/8" Single Gang 5/8" Single Gang 9/4" Single Gang 9/4" Single Gang
Three Way Switch Assembly Catalog Number with CS320V Commercial Grade 20A Three Way Switch Installed Single 20A Three Way Switch TP3140D C203WV TP3140S C203WV TP3240D C203WV	Three Way Switch Assembly Catalog Number with AH1223V Industrial Grade 20A Three Way Switch Installed h TP3140D I203WV TP3140S I203WV TP3240D I203WV TP3240S I203WV	Steel Open Back Box 21/8" Deep 11/2" Deep 21/8" Deep	%" Single Gang %" Single Gang %" Single Gang

- All open back box assemblies are shipped with TP472 flat, blank back covers, ground screw and lead.
- All open back box assemblies are snipped with 1P4/2 fat, blank back covers, ground screw and lead.
 Other box types, device colors, mud ring depths, brackets and assembly configurations are available. Consult factory for details.
 To change the color of device from loory (as shown) to white, substitute V (ivory) with W (white). For ex. TP3140D C20DV becomes TP3140D C20DW.
 All receptacles are shipped standard ground up. Add suffix DN for ground down.
 All assemblies shipped standard with metal device protect plates.
 Pre-installed connectors available on all assembly types. Consult factory for details.

Uni-Mount™ Assemblies with Wiring Devices

PRE-formance[™] Catalog Numbering System for Uni-Mount[™] Assemblies with Devices



TP3140D C20DVSG

Standard Eaton's	Wiring D	evices use	d in	PRF-formance	Assemblies
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CCH Wiring Device Nomenclature (without color suffix)	CWD Catalog Number used (shown without color suffix)	Description	CCH Wiring Device Nomenclature (without color suffix)	CWD Catalog Number used (shown without color suffix)	Description
C20D	CR20	Commercial Grade 20A Duplex Receptacle	C20SP	CS120	Commercial Grade 20A Single Pole Switch
I20D	5362	Industrial Grade 20A Duplex Receptacle	I20SP	AH1221	Industrial Grade 20A Single Pole Switch
H20D	8300	Hospital Grade 20A Duplex Receptacle	C203W	CS320	Commercial Grade 20A Three Way Switch
S20G	VGF20	Specification Grade 20A GFCI Receptacle	I203W	AH1223	Industrial Grade 20A Three Way Switch
H20G	VGFH20	Hospital Grade 20A GFCI Receptacle			

Single Sided Assemblies with Wiring Devices

Eaton's Crouse-Hinds PRE-formance Single Sided Assembles - all catalog numbers contain a single sided bracket (BB4-23 for 31/2" and 21/2" studs), 4" square box, an 8" insulated solid box ground wire, one or two pre-wired Eaton's Wiring Devices with leads and push-in connectors, and device protect plates.



Single Sided Assemblies with Wiring Devices are shipped standard with open back boxes. Open back boxes maximize the working area to reduce wiring time and eliminate interference problems. They virtually eliminate the need for disassembly at the job site. Open back boxes are available in either 11/2" or 21/8" deep with 1/2 and 3/4 eccentric knockouts. All 4" square open back box assemblies are shipped with TP472 flat, blank back covers.



- · All assemblies are shown with ivory colored devices. At the end of the catalog number, replace the "V" with "W" for white colored device. Other device colors and types are available. Consult factory for details. Double sided direct mount assemblies are also available. Substitute PFH3 in the catalog number with PF3DS (BB73 double sided bracket).
- 4" and 6" far side supports are available. Replace PFH3 (for 21/2" and 31/2" studs) with PFH4 (4") (BB44) or PFH6 (6") (BB46). For double sided, replace PF3DS with PF4DS (BB74) or PF6DS (BB76).

UL and cUL Listed UL File No. E-324733





Commonly ordered catalog examples are listed below

Commercial Grade

Recentacle

See assembly catalog numbering system at the end of this section for more information on how to construct catalog numbers for almost any customer application

Industrial Grade

Recentacle

Duplex Receptacle
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Assembly Catalog Number with CR20V Commercial Grade 2 Duplex Receptacle Installed	Assembly Catalog Number with 5362V 0A Industrial Grade 20A Duplex Receptacle Installed	Assembly Catalog Number with 8300V Hospital Grade 20A Duplex Receptacle Installed	4" Square Steel Open Back Box	Mud Ring
Single 20A Duplex R	eceptacle			
PFH3 40D58C20DV PFH3 40S58C20DV PFH3 40D75C20DV PFH3 40S75C20DV	PFH3 40D58I20DV PFH3 40S58I20DV PFH3 40D75I20DV PFH3 40S75I20DV	PFH3 40D58H20DV PFH3 40S58H20DV PFH3 40D75H20DV PFH3 40S75H20DV	2½" Deep 1½" Deep 2½" Deep 1½" Deep	5/8" Single Gang 5/8" Single Gang 3/4" Single Gang 3/4" Single Gang
Double 20A Duplex F	Receptacle			
PFH3 40D258C20DD PFH3 40S258C20DD PFH3 40D275C20DD PFH3 40S275C20DD	V PFH3 40S258I20DDV V PFH3 40D275I20DDV	PFH3 40D258H20DDV PFH3 40S258H20DDV PFH3 40D275H20DDV PFH3 40S275H20DDV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" Two Gang 5/8" Two Gang 3/4" Two Gang 3/4" Two Gang
Specification Grade	Hospital Grade			

Hospital Grade

Recentacle

GFCI Receptacle





GFCI Receptacle	GFCI Receptacle		
Assembly Catalog Number with VGF20 Specification Grade 20A GFCI Receptacle Installed	Assembly Catalog Number with VGFH20V Hospital Grade 20A GFCI Receptacle Installed	4" Square Steel Open Back Box	Mud Ring
Single 20A GFCI Receptacle			
PFH3 40D58S20GV PFH3 40S58S20GV PFH3 40D75S20GV PFH3 40S75S20GV	PFH3 40D58H20GV PFH3 40S58H20GV PFH3 40D75H20GV PFH3 40S75H20GV	2½" Deep 1½" Deep 2½" Deep 1½" Deep 1½" Deep	5/8" Single Gang 5/8" Single Gang 3/4" Single Gang 3/4" Single Gang
Double 20A GFCI Receptacle			
PFH3 40D258S20GGV PFH3 40S258S20GGV PFH3 40D275S20GGV	PFH3 40D258H20GGV PFH3 40S258H20GGV PFH3 40D275H20GGV	2½" Deep 1½" Deep 2½" Deep	%" Two Gang %" Two Gang %" Two Gang
PFH3 40S275S20GGV	PFH3 40S275H20GGV	1½" Deep	³¼" Two Gang

Single Sided Assemblies with Wiring Devices

Commercial Grade

Single Pole Switch

Assembly Catalog Number with

Single Pole Switch







CS120V Commercial Grade 20A	AH1221V Industrial Grade 20A	Steel Open	
Single Pole Switch Installed	Single Pole Switch Installed	Back Box	
Single 20A Single Pole Switch			
PFH3 40D58C20SPV	PFH3 40D58I20SPV	21/8" Deep	5/8" Single Gang
PFH3 40S58C20SPV	PFH3 40S58I20SPV	11/2" Deep	5/8" Single Gang
PFH3 40D75C20SPV	PFH3 40D75I20SPV	21/8" Deep	3/4" Single Gang
PFH3 40S75C20SPV	PFH3 40S75I20SPV	11/2" Deep	3/4" Single Gang
Double 20A Single Pole Switch			
PFH3 40D258C20SPSPV	PFH3 40D258I20SPSPV	21/8" Deep	5%" Two Gang 5%" Two Gang 3/4" Two Gang 3/4" Two Gang
PFH3 40S258C20SPSPV	PFH3 40S258I20SPSPV	11/2" Deep	
PFH3 40D275C20SPSPV	PFH3 40D275I20SPSPV	21/8" Deep	
PFH3 40S275C20SPSPV	PFH3 40S275I20SPSPV	11/2" Deep	

Industrial Grade

Single Pole Switch

Assembly Catalog Number with

4" Square

11/2" Deep

3/4" Two Gang

Mud Ring

Three Way Switch





Commercial Grade Three Way Switch	Industrial Grade Three Way Switch		
Assembly Catalog Number with CS320V Commercial Grade 20A Three Way Switch Installed	Assembly Catalog Number with AH1223V Industrial Grade 20A Three Way Switch Installed	4" Square Steel Open Back Box	Mud ring
Single 20A Three Way Switch			
PFH3 40D58C203WV PFH3 40S58C203WV PFH3 40D75C203WV PFH3 40S75C203WV	PFH3 40D58I203WV PFH3 40S58I203WV PFH3 40D75I203WV PFH3 40S75I203WV	2 ¹ / ₈ " Deep 1 ¹ / ₂ " Deep 2 ¹ / ₈ " Deep 1 ¹ / ₂ " Deep	5/8" Single Gang 5/8" Single Gang 3/4" Single Gang 3/4" Single Gang
Double 20A Three Way Switch			
PFH3 40D258C203W3WV PFH3 40S258C203W3WV PFH3 40D275C203W3WV	PFH3 40D258I203W3WV PFH3 40S258I203W3WV PFH3 40D275I203W3WV	2 ¹ / ₈ " Deep 1 ¹ / ₂ " Deep 2 ¹ / ₈ " Deep	5/8" Two Gang 5/8" Two Gang 3/4" Two Gang

PFH3 40S275I203W3WV

PFH3 40S275C203W3WV

- All open back box assemblies are shipped with TP472 flat, blank back covers, ground screw and lead.
 Double Sided Direct Mount Assemblies also available. Substitute PFH3 in the catalog number with PF3DS (BB73).
 Other box types, device colors, mud ring depths, brackets and assembly configurations are available. Consult factory for details.
 To change the color of device from ivory (as shown) to white, substitute V (ivory) with W (white). For ex. PFH3 40D58C20DV becomes PFH3 40D58C20DW.
 All receptacles are shipped standard ground up. Add suffix DN for ground down.
 All assemblies shipped standard with metal device protect plates.
 Pre-installed connectors available on all assembly types. Consult factory for details.

Double Sided Assemblies with Wiring Devices

Eaton's Crouse-Hinds PRE-formance Double Sided Assembles - all catalog numbers contain a double sided bracket (BB73 for 3½" and 2½" studs), 4" square box, an 8" insulated solid box ground wire, one or two pre-wired Eaton's Wiring Devices with leads and push-in connectors, and device protect plates.



Double Sided Assemblies with Wiring Devices are shipped standard with open back boxes. Open back boxes maximize the working area to reduce wiring time and eliminate interference problems. They virtually eliminate the need for disassembly at the job site. Open back boxes are available in either 1½" or 2½" deep with ½ and ¾ eccentric knockouts. All 4" square open back box assemblies are shipped with TP472 flat, blank back covers.



- All assemblies are shown with ivory colored devices. At the end of the catalog number, replace the "V" with "W" for white colored device. Other device colors and types are available. Consult factory for details.
- 4" and 6" far side supports are available. Replace PF3DS (for 21/2" and 31/2" studs) with PF4DS (4") (BB44) or PF6DS (6") (BB46).

UL and cUL Listed UL File No. E-324733





Commonly ordered catalog examples are listed below

See assembly catalog numbering system at the end of this section for more information on how to construct catalog numbers for almost any customer application

	Commercial Grade Receptacle	Industi Recep	rial Grade tacle	Hospital Grade Receptacle			
Duplex Receptacle	Assembly Catalog Number with CR20V Commercial Grade 20A Duplex Receptacle Installed	Numbe Indust	bly Catalog er with 5362V rial Grade 20A a Receptacle ed	Assembly Cata Number with 83 Hospital Grade Duplex Recepta Installed	300V 20A	4" Square Steel Open Back Box	Mud Ring
1000	Single 20A Duplex Recept	acle					
	PF3DS 40D58C20DV PF3DS 40S58C20DV PF3DS 40D75C20DV PF3DS 40S75C20DV	PF3DS	40D58I20DV 40S58I20DV 40D75I20DV 40S75I20DV	PF3DS 40D58H PF3DS 40S58H PF3DS 40D75H PF3DS 40S75H	20DV 20DV	2 1/8" Deep 1 1/2" Deep 2 1/8" Deep 1 1/2" Deep	5/8" Single Gang 5/8" Single Gang 3/4" Single Gang 3/4" Single Gang
	Double 20A Duplex Recep	tacle					
891	PF3DS 40D258C20DDV PF3DS 40S258C20DDV PF3DS 40D275C20DDV PF3DS 40S275C20DDV	PF3DS	40D258I20DDV 40S258I20DDV 40D275I20DDV 40S275I20DDV	PF3DS 40D258 PF3DS 40S258I PF3DS 40D275I PF3DS 40S275I	H20DDV H20DDV	2 1/8" Deep 1 1/2" Deep 2 1/8" Deep 1 1/2" Deep	5/8" Two Gang 5/8" Two Gang 3/4" Two Gang 3/4" Two Gang
	Specification Grade GFCI Receptacle		Hospital Grade GFCI Receptacle				
GFCI Receptacle	Assembly Catalog Numbe VGF20 Specification Grade GFCI Receptacle Installed	e 20A	Assembly Catalog VGFH20V Hospita GFCI Receptacle	al Grade 20A	4" Square Open Bac		Ring
	Single 20A GFCI Receptad	le					
	PF3DS 40D58S20GV PF3DS 40S58S20GV PF3DS 40D75S20GV PF3DS 40S75S20GV		PF3DS 40D58H20 PF3DS 40S58H20 PF3DS 40D75H20 PF3DS 40S75H20	GV GV	2 1/8" Deep 1 1/2" Deep 2 1/8" Deep 1 1/2" Deep	5/8" S 5/4" S	Single Gang Single Gang Single Gang Single Gang
No. of Street, or other party of the last	Double 20A GFCI Recepta	cle					
	PF3DS 40D258S20GGV PF3DS 40S258S20GGV PF3DS 40D275S20GGV PF3DS 40S275S20GGV		PF3DS 40D258H2 PF3DS 40S258H2 PF3DS 40D275H2 PF3DS 40S275H2	OGGV OGGV	2 1/8" Deep 1 1/2" Deep 2 1/8" Deep 1 1/2" Deep	5%" T 5 3/4" T	wo Gang wo Gang wo Gang wo Gang

Double Sided Assemblies with Wiring Devices

Commercial Grade

Single Pole Switch





Single Pole Switch	Single Pole Switch		
Assembly Catalog Number with CS120V Commercial Grade 20A Single Pole Switch Installed	Assembly Catalog Number with AH1221V Industrial Grade 20A Single Pole Switch Installed	4" Square Steel Open Back Box	Mud Ring
Single 20A Single Pole Switch			
PF3DS 40D58C20SPV PF3DS 40S58C20SPV PF3DS 40D75C20SPV PF3DS 40S75C20SPV	PF3DS 40D58I20SPV PF3DS 40S58I20SPV PF3DS 40D75I20SPV PF3DS 40S75I20SPV	2 1/8" Deep 1 1/2" Deep 2 1/8" Deep 1 1/2" Deep	5/s" Single Gang 5/s" Single Gang 9/4" Single Gang 3/4" Single Gang
Double 20A Single Pole Switch			
PF3DS 40D258C20SPSPV PF3DS 40S258C20SPSPV PF3DS 40D275C20SPSPV PF3DS 40S275C20SPSPV	PF3DS 40D258I20SPSPV PF3DS 40S258I20SPSPV PF3DS 40D275I20SPSPV PF3DS 40S275I20SPSPV	2 1/8" Deep 1 1/2" Deep 2 1/8" Deep 1 1/2" Deep	5/4" Two Gang 5/4" Two Gang 9/4" Two Gang 9/4" Two Gang

Industrial Grade

Three Way Switch





Commercial Grade Three Way Switch	Industrial Grade Three Way Switch		
Assembly Catalog Number with	Assembly Catalog Number with	4" Square	Mud ring
CS320V Commercial Grade 20A	AH1223V Industrial Grade 20A	Steel Open	
Three Way Switch Installed	Three Way Switch Installed	Back Box	
Single 20A Three Way Switch			
PF3DS 40D58C203WV	PF3DS 40D58I203WV	2 1/8" Deep	5/s" Single Gang
PF3DS 40S58C203WV	PF3DS 40S58I203WV	1 1/2" Deep	5/s" Single Gang
PF3DS 40D75C203WV	PF3DS 40D75I203WV	2 1/8" Deep	9/4" Single Gang
PF3DS 40S75C203WV	PF3DS 40S75I203WV	1 1/2" Deep	3/4" Single Gang
Double 20A Three Way Switch			
PF3DS 40D258C203W3WV	PF3DS 40D258I203W3WV	2 1/8" Deep	5/s" Two Gang
PF3DS 40S258C203W3WV	PF3DS 40S258I203W3WV	1 1/2" Deep	5/s" Two Gang
PF3DS 40D275C203W3WV	PF3DS 40D275I203W3WV	2 1/8" Deep	3/4" Two Gang
PF3DS 40S275C203W3WV	PF3DS 40S275I203W3WV	1 1/2" Deep	3/4" Two Gang

- All open back box assemblies are shipped with TP472 flat, blank back covers, ground screw and lead.
 Other box types, device colors, mud ring depths, brackets and assembly configurations are available. Consult factory for details.
 To change the color of device from ivory (as shown) to white, substitute V (ivory) with W (white). For ex. PF3DS 40D58C20DV becomes PF3DS 40D58C20DW.
 All receptacles are shipped standard ground up. Add suffix DN for ground down.
 All assemblies shipped standard with metal device protect plates.
 Pre-installed connectors available on all assembly types. Consult factory for details.

Floor Mount Assemblies with Wiring Devices

Eaton's Crouse-Hinds PRE-formance Floor Mount Assemblies - all catalog numbers contain a floor mount bracket (BBF18) which positions device at 18" on center, 4" square box, an 8" insulated solid box ground wire with ground screw, one or two prewired Eaton's Wiring Devices with leads and push-in connectors, and device protect plates.



Floor mount assemblies with wiring devices are shipped standard with open back boxes. Open back boxes maximize the working area to reduce wiring time and eliminate interference problems. They virtually eliminate the need for disassembly at the job site. Open back boxes are available in either 11/2" or 21/s" deep with 1/2 & 3/4 eccentric knockouts. All 4" square open back box assemblies are shipped with TP472 flat, blank back covers.

· All assemblies are shown with ivory colored devices. At the end of the catalog number, replace the "V" with "W" for white colored device. Other device colors and types are available. Consult factory for details.



UL and cUL Listed UL File No. E324733





Commonly ordered catalog examples are listed below

See assembly catalog numbering system at the end of this section for more information on how to construct catalog numbers for almost any customer application

Single Receptacle



Commercial Grade Receptacle	Industrial Grade Receptacle	Hospital Grade Receptacle		
Assembly Catalog Number with CR20V Commercial Grade 20A Duplex Receptacle Installed	Assembly Catalog Number with 5362V Industrial Grade 20A Duplex Receptacle Installed	Assembly Catalog Number with 8300V Hospital Grade 20A Duplex Receptacle Installed	4" Square Steel Open Back Box	Mud Ring
Single 20A Duplex Recepta	cle			
PF18FM 40D58C20DV PF18FM 40S58C20DV PF18FM 40D75C20DV PF18FM 40S75C20DV	PF18FM 40D58I20DV PF18FM 40S58I20DV PF18FM 40D75I20DV PF18FM 40S75I20DV	PF18FM 40D58H20DV PF18FM 40S58H20DV PF18FM 40D75H20DV PF18FM 40S75H20DV	2 ¹ / ₈ " Deep 1 ¹ / ₂ " Deep 2 ¹ / ₈ " Deep 1 ¹ / ₂ " Deep	5/8" Single Gang 5/8" Single Gang 3/4" Single Gang 3/4" Single Gang
Double 20A Duplex Recept	acle			
PF18FM 40D258C20DDV PF18FM 40S258C20DDV PF18FM 40D275C20DDV PF18FM 40S275C20DDV	PF18FM 40D258I20DDV PF18FM 40S258I20DDV PF18FM 40D275I20DDV PF18FM 40S275I20DDV	PF18FM 40D258H20DDV PF18FM 40S258H20DDV PF18FM 40D275H20DDV PF18FM 40S275H20DDV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" Two Gang 5/8" Two Gang 3/4" Two Gang 3/4" Two Gang

- All open back box assemblies are shipped with TP472 flat, blank back covers, ground screw and lead.
- Air open back box assembles are snipped with 1P42 lad, blank back covers, ground screw and lead.
 Other box types, device colors, mud ring depths, brackets and assembly configurations are available. Consult factory for details.
 To change the color of device from ivory (as shown) to white, substitute V (ivory) with W (white). For ex. PF18FM 40D58C20DV becomes PF18FM 40D58C20DW.
 All receptacles are shipped standard ground up. Add suffix DN for ground down.
- All assemblies shipped standard with metal device protect plates
- Pre-installed connectors available on all assembly types. Consult factory for details.

Telescoping Slider Assemblies with Wiring Devices

Eaton's Crouse-Hinds PRE-formance Telescoping Slider Assemblies - all catalog numbers contain a Telescoping Slider Bracket (BB216TS 11"-18"), 4" square <u>traditional</u> closed back box, an 8" insulated stranded box ground wire with ground screw, one or two pre-wired Eaton's Wiring Devices with leads and push-in connectors, and device protect plates.

- All assemblies are shown with ivory colored devices. At the end of the
 catalog number, replace the "V" with "W" for white colored device. Other
 device colors and types are available. Consult factory for details.
- 15"-26" Telescoping Slider Assemblies are available. Replace PF16TS (BB216TS) with PF24TS (BB224TS).



UL and cUL Listed





UL File No. E324733

Commonly ordered catalog examples are listed below

See assembly catalog numbering system at the end of this section for more information on how to construct catalog numbers for almost any customer application

	Commercial Grade Receptacle	Industria Recepta		Hospital Grad Receptacle	le		
Duplex Receptacles	Assembly Catalog Number with CR20V Commercial Grade 20A Duplex Receptacle Installed	Number with CR20V Number with 5362V N Commercial Grade 20A Industrial Grade 20A H Duplex Receptacle Duplex Receptacle D		Assembly Ca Number with Hospital Grad Duplex Receptorstalled	8300V le 20A	4" Square Steel Box (Not Open Back)	Mud Ring
	Single 20A Duplex Recep	tacle					
	PF16TS 4DA58C20DV PF16TS 4SA58C20DV PF16TS 4DA75C20DV PF16TS 4SA75C20DV	PF16TS PF16TS	4DA58I20DV 4SA58I20DV 4DA75I20DV 4SA75I20DV	PF16TS 4DA5 PF16TS 4SA5 PF16TS 4DA7 PF16TS 4SA7	8H20DV 75H20DV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" Single Gang 5/8" Single Gang 3/4" Single Gang 3/4" Single Gang
图 图	Double 20A Duplex Recep	otacle					
	PF16TS 4DA258C20DDV PF16TS 4SA258C20DDV PF16TS 4DA275C20DDV PF16TS 4SA275C20DDV	PF16TS PF16TS	4DA258I20DDV 4SA258I20DDV 4DA275I20DDV 4SA275I20DDV	PF16TS 4DA2 PF16TS 4SA2 PF16TS 4DA2 PF16TS 4SA2	58H20DDV 75H20DDV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" Two Gang 5/8" Two Gang 3/4" Two Gang 3/4" Two Gang
	Specification Grade GFCI Receptacle		Hospital Grade GFCI Receptac				
GFCI Receptacles	Assembly Catalog Number with VGF20 Specification Grade 20A GFCI Receptacle Installed		Assembly Cata Number with V Hospital Grade GFCI Receptac Installed	GFH20V 20A	4" Square Steel Box (Not Open Back)	Muc	l Ring
	Single 20A GFCI Recepta	cle					
	PF16TS 4DA58S20GV PF16TS 4SA58S20GV PF16TS 4DA75S20GV PF16TS 4SA75S20GV		PF16TS 4DA58 PF16TS 4SA58 PF16TS 4DA75 PF16TS 4SA75	H20GV H20GV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" (3/ ₄ " (Single Gang Single Gang Single Gang Single Gang
CALCALLY TO	Double 20A GFCI Recepta	acle					
	PF16TS 4DA258S20GGV PF16TS 4SA258S20GGV PF16TS 4DA275S20GGV PF16TS 4SA275S20GGV		PF16TS 4DA25 PF16TS 4SA25 PF16TS 4DA27 PF16TS 4SA27	8H20GGV 5H20GGV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep	5/8" - 3/4" -	Two Gang Two Gang Two Gang Two Gang



Telescoping Slider Assemblies with Wiring Devices

Single Pole Switch	Commercial Grade Single Pole Switch Assembly Catalog Number with CS120V Commercial Grade 20A Single Pole Switch Installed	Industrial Grade Single Pole Switch Assembly Catalog Number with AH1221V Industrial Grade 20A Single Pole Switch Installed	4" Square Steel Box (Not Open Back)	Mud Ring
	Single 20A Single Pole Switch PF16TS 4DA58C20SPV PF16TS 4SA58C20SPV PF16TS 4DA75C20SPV PF16TS 4SA75C20SPV Double 20A Single Pole Switch PF16TS 4DA258C20SPSPV PF16TS 4SA258C20SPSPV PF16TS 4DA275C20SPSPV PF16TS 4SA275C20SPSPV	PF16TS 4DA58I20SPV PF16TS 4SA58I20SPV PF16TS 4DA75I20SPV PF16TS 4SA75I20SPV PF16TS 4DA258I20SPSPV PF16TS 4SA258I20SPSPV PF16TS 4DA275I20SPSPV PF16TS 4SA275I20SPSPV	21/6" Deep 11/2" Deep 21/6" Deep 11/2" Deep 11/2" Deep 11/2" Deep 11/2" Deep 11/2" Deep	5/6" Single Gang 5/6" Single Gang 5/4" Single Gang 3/4" Single Gang 5/6" Two Gang 5/6" Two Gang 5/6" Two Gang 5/4" Two Gang 5/4" Two Gang
Three Way Switch	Commercial Grade Three Way Switch Assembly Catalog Number with CS320V Commercial Grade 20A Three Way Switch Installed	Industrial Grade Three Way Switch Assembly Catalog Number with AH1223V Industrial Grade 20A Three Way Switch Installed	4" Square Steel Box (Not Open Back)	Mud Ring
	Single 20A Three Way Switch PF16TS 4DA58C203WV PF16TS 4SA58C203WV PF16TS 4DA75C203WV PF16TS 4SA75C203WV Double 20A Three Way Switch PF16TS 4DA258C203W3WV PF16TS 4DA258C203W3WV PF16TS 4DA275C203W3WV PF16TS 4DA275C203W3WV	PF16TS 4DA58I203WV PF16TS 4SA58I203WV PF16TS 4DA75I203WV PF16TS 4SA75I203WV PF16TS 4DA258I203W3WV PF16TS 4SA258I203W3WV PF16TS 4DA275I203W3WV PF16TS 4SA275I203W3WV	21/8" Deep 11/2" Deep 21/8" Deep 11/2" Deep 11/2" Deep 11/2" Deep 11/2" Deep 11/2" Deep	5/8" Single Gang 5/8" Single Gang 9/4" Single Gang 9/4" Single Gang 9/4" Two Gang 5/8" Two Gang 9/4" Two Gang 9/4" Two Gang

- Other box types, device colors, mud ring depths, brackets and assembly configurations are available. Consult factory for details.
- To change the color of device from ivory (as shown) to white, substitute V (ivory) with W (white). For ex. PF16TS 4DAC20DV becomes PF16TS 4DAC20DW.
- All receptacles are shipped standard ground up. Add suffix DN for ground down.
- All assemblies shipped standard with metal device protect plates.
- Pre-installed connectors available on all assembly types. Consult factory for details.
- Telescoping Slider Bracket Assemblies are shipped with traditional closed back box, ground screw and stranded leads on box and devices.
- Device leads and push-in connectors are left inside the box and will not be pulled out of knockouts prior to shipment unless specified by customer.

Multi-Mount Assemblies with Wiring Devices

Eaton's Crouse-Hinds PRE-formance Multi-Mount Assemblies - all catalog numbers contain a multiple mount bracket (available in either 16" stud spanning or 24" stud spanning). Each position may contain an outlet box, an 8" insulated solid box ground wire with ground screw, one or two pre-wired Eaton's Wiring Devices with leads and push-in connectors, and device protect plates.

UL and cUL Listed





UL File No. E324733

Commonly ordered catalog examples are listed below

See assembly catalog numbering system at the end of this section for more information on how to construct catalog numbers for almost any customer application



PF3MM 40D58C20DV 5D58 X

3MM Bracket 4MM Bracket (not shown)

BB816 3 hole Multiple Mount Bracket for 16" Stud spacing

BB824 4 hole Multiple Mount Bracket for 24" Stud spacing



PF16BO 40D58C20DV X 40D258C20DDV

16BO Bracket 24BO Bracket (not shown)

BB716 Open Mount Bracket for BB724 Open Mount Bracket for 16" Stud spacing 24" Stud spacing

Commonly Ordered Catalog Numbers	Description
PF3MM 40D58C20DV 5DN58 X	Assembly - BB816 Multiple Box Bracket, 4" square open back box with ground screw, lead and back cover, TP489 %" raise 1G mud ring, pre-wired CR20V 20A commercial duplex receptacle ivory with leads and push-in connectors and protect plate (not shown), 2nd position TP525 4"/16" box, TP579 4"/16" 5% raise 1G mud ring, no ground wire
PF16BO 40D58C20DV X 40D58C20DDV	Assembly - BB716 Open Bracket, 4" square open back box with ground screw, lead and back cover, TP489 % raise 1G mud ring, pre-wired CR20V 20A commercial duplex receptacle ivory with leads, push-in connectors and protect plate, 2nd position open, 3rd position 4" square open back box with ground screw, lead and back cover, TP499 % raise 2G mud ring, two pre-wired CR20v 20A commercial duplex receptacles ivory with leads, push-in connectors and protect plates

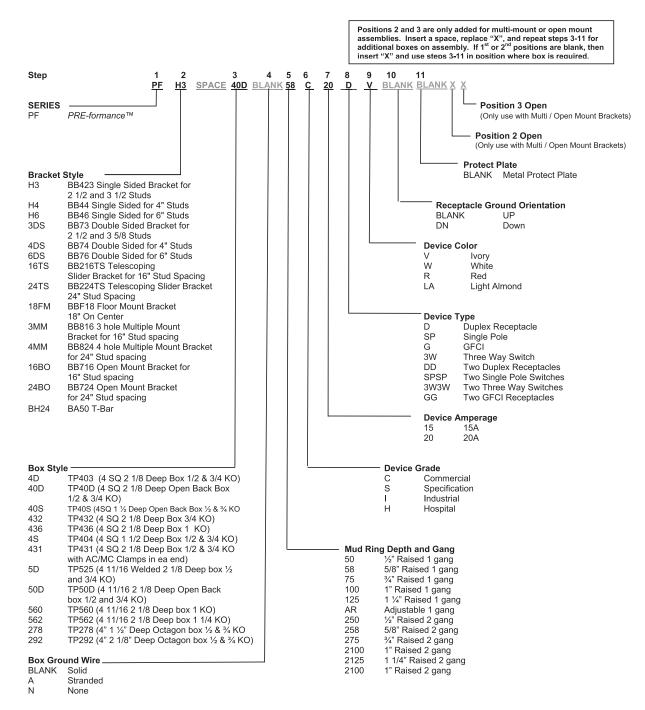
- All open back box assemblies are shipped with TP472 flat, blank back covers, ground screw and lead.
 Other box types, device colors, mud ring depths, brackets and assembly configurations are available. Consult factory for details.
 To change the color of device from ivory (as shown) to white, substitute V (ivory) with W (white).
 All receptacles are shipped standard ground up. Add suffix DN for ground down.

- All assemblies shipped standard with metal device protect plates.
 Pre-installed connectors available on all assembly types. Consult factory for details.

PRE-formance[™]

Catalog Numbering System for Additional Assembly Configurations

PRE-formance[™] Catalog Numbering System for Additional Assembly Configurations



Catalog Numbering System for Additional Assembly Configurations



PFH3 40D58C20DVSG (protect plate not shown)

Standard Eaton's Wiring Devices used in PRE-formance Assemblies

Canada Later o Willing Devices acca in The Termanics Accombined								
CCH Wiring Device Nomenclature (without color suffix)	CWD Catalog Number used (shown without color suffix)	Description	CCH Wiring Device Nomenclature (without color suffix)	CWD Catalog Number used (shown without color suffix)	Description			
C20D	CR20	Commercial Grade 20A Duplex Receptacle	C20SP	CS120	Commercial Grade 20A Single Pole Switch			
I20D	5362	Industrial Grade 20A Duplex Receptacle	I20SP	AH1221	Industrial Grade 20A Single Pole Switch			
H20D	8300	Hospital Grade 20A Duplex Receptacle	C203W	CS320	Commercial Grade 20A Three Way Switch			
S20G	VGF20	Specification Grade 20A GFCI Receptacle	I203W	AH1223	Industrial Grade 20A Three Way Switch			
H20G	VGFH20	Hospital Grade 20A GFCI Receptacle						

PRE-formance[™]

Complete

The most complete turn-key solution for commercial construction projects

The process begins with your architectural and electrical engineering drawings and delivers a total pre-fabricated branch wiring system: custom produced, labeled, packaged by room and floor, and delivered to your exact location.

PRE-formance Complete delivers:

- The ideal solution for hotels, condos, commercial and retail offices, hospitals and apartments
- Total pre-fabricated branch wiring system custom produced with Eaton's Crouse-Hinds components, labeled, packaged by room and floor, delivered to your exact location
- · Lower total cost of ownership
- Skill set allocation to match job requirements
- Elimination of job site material "piles" and inefficient searching for pieces and parts at the job site
- Elimination of job site "engineering"
- Reduction of overages and scrap, including expensive wire and cable
- Contractors can realize 30% to 40% labor savings over traditional "stick-build" wiring methods for greatly improved job site efficiency



PRE-formance Complete quotation process provides:

- · Safe, secure transmission of drawings to secure file exchange server, CDs, or hard copy drawings if customer prefers, where our technical team (consisting of engineers and former contractors) completes a preliminary take-off analysis.
- A cleary defined, mutually agreed upon scope of work proposal easily identifies inclusions and exclusions and includes formal approval/sign-off procedures to ensure a clear, mutual understanding before work begins. Our team of engineers provides technical support and will answer your questions throughout the entire process. Mutual understanding of the requirements is an integral part of the process.



Product receipt and installation made fast, easy and accurate

- Unique, custom data layout table gets applied and shipped to each CAD drawing for each and every different room or area type
- Simplifies installation, eliminates guess work and helps eliminate job site engineering
- Job-specific labeling included with every cable run indicates starting position, ending position, device type, mounting type, cable size, cable length, box type, cable path, drawing number, and date
- · Includes mounting brackets and open back boxes that are designed with pre-fabrication, productivity and job site speed in mind









HomeRunner™ Box

Commercial construction screw cover iunction box with patented clamps

Applications:

Eaton's Crouse-Hinds HomeRunner™ Junction Boxes are designed specifically for commercial construction applications to provide a spacious, flexible junction box for terminating home runs and other electrical wiring. Its patented clamping design and flexibility make it the most convenient, labor savings junction box available.

Features:

- Designed and approved for use with AC, MC, MCI-A, NM or EMT
- Patented clamping feature eliminates the need for field punching/drilling of KOs and installation of connectors
- Standard surface or flush cover options eliminates the need for custom covers
- · Multiple mounting holes and knockouts for installation flexibility
- Optional stud bracket for direct mounting to steel or wood studs
- Kick stand far side support available with HR080803
- Available in 2 sizes to match customer requirements and preferences

Call-out Features:

- Patented clamping system provides maximum flexibility and maximum grip. Third party certified for use with AC, MC, MCI-A or non-metallic sheathed cable
- 2. Welded steel construction provides strong, dependable service and large cubic capacity for ease of wiring
 3. Combination eccentric knockouts on sides for quick and easy
- Combination eccentric knockouts on sides for quick and easy access, combination ko's in the back of the box are ideal for applications where joist spacing is too tight for side entry
- Terminal cup washer and flanged nut quick, easy service ground termination or attachment of grounding bus-bar
- 2 cover options square for surface mounted applications or oversized for flush mount applications
- Extensive mounting flexibility pre-drilled holes in side and back for direct mounting or for mounting bracket (purchased separately)
- Far-side support snaps on quickly and easily and is perforated which allows for adjustment in dual thickness, fire-rated walls, shipped standard with 8" x 8" x 3" models

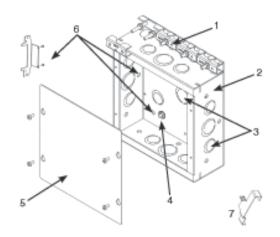
Certifications and Compliances:

- For U.S. and Canada: CSA File #248782
- Certified to UL50 and UL514B and CSA C22.2, No. 18.3-04 and No. 40-M1989

Standard Materials:

- Enclosure and cover pre-galvanized steel
- Hardware zinc plated steel





Cat.#	Description	Dimensions	Knockouts	Wire Fill	Built-In Clamps	Cubic Volume	Unit Qty.	Wt. Per 100
HR080803	8" x 8" Box	8"H x 8"W x 3"D	(10) ½" and ¾" eccentric, (7) ¾" and 1" eccentric	(7) 14 AWG, (6) 12 AWG, (5) 10 AWG	(1) 10 / 3 to 10 / 12, (5) 14 / 2 to 10 / 3	177	5	400
HR121204	12" x 12" Box	12"H x 12"W x 4"D	(9) 1/2" (8) 1/2" - 3/4" eccentric (6) 3/4" - 1" eccentric (6) 1" - 11/4" eccentric	' '	(1) 10 / 3 to 10 / 12, (10) 14 / 2 to 10 / 3	544	5	800
HRC0808S	Surface Mount Cover for HomeRunner Box	8"H x 8"W x .06"D	(6) 1 174 6666111110				5	100
HRC0808F	Flush Mount Cover for HomeRunner Box	9.38"H x 9.38"W x .06"D					5	160
HRC1212S	Surface Mount Cover for HomeRunner Box	12"H x 12"W x .065"D					5	270
HRC1212F	Flush Mount Cover for HomeRunner Box	13.38"H x 13.38"W x .065"D					5	230
HRSB1	Stud Bracket for HomeRunner Box						20	35

Weatherproof Outlet Boxes

Features and Benefits:

- Durable die cast aluminum construction for long product life
- Powder paint finish for corrosive enviroments
- Plugs supplied as standard with $\frac{1}{2}$ " and $\frac{3}{4}$ " hubs are non-metallic, 1" hubs are zinc die cast
- · Boxes supplied with mounting feet
- Tapered NPT hubs

Certifications and Compliances:

- UL Standard UL514A
- UL Listed File No. E15022
- cUL Standard CSA-C22.2 No 18.1-04
- · Suitable for wet locations

Materials and Finishes:

- Boxes: Die Cast Aluminum
- Self Closing Covers: Zinc Die Cast
- Toggle Switch Covers: Stamped Aluminum
- Blank Covers: Steel

SINGLE GANG – 18.0 CUBIC INCH CAPACITY – 2" DEEP CAST ALUMINUM – UL LISTED FOR WET LOCATIONS









TP7010 - TP7012

TP7026, TP7034

TP7042, TP7050

TP7058, TP7066

		Outlet			Wt. Lbs.
Cat. #	Description	Holes	Color	Unit Qty.	Per 100
TP7010	With Lugs	3 - 1/2"	Gray	50	58.3
TP7011	With Lugs	3 - 1/2"	White	50	58.3
TP7012	With Lugs	3 - 1/2"	Bronze	50	58.3
TP7018	With Lugs	3 - 3/4"	Gray	50	58.3
TP7026	With Lugs	4 - 1/2"	Gray	50	58.3
TP7034	With Lugs	4 - 3/4"	Gray	50	58.3
TP7042	With Lugs	5 - ½"	Gray	50	58.3
TP7050	With Lugs	5 - ³ / ₄ "	Gray	50	58.3
TP7058	Side Entry, With Lugs	5 - ½"	Gray	50	58.3
TP7066	Side Entry, With Lugs	5 - ³ / ₄ "	Gray	50	58.3

SINGLE GANG – 24.0 CUBIC INCH CAPACITY – 25/8" DEEP CAST ALUMINUM – UL LISTED FOR WET LOCATIONS



TP7074, TP7078, TP7082

Cat. #	Description	Outlet Holes	Color	Unit Qty.	Wt. Lbs. Per 100	
TP7074	With Lugs	3 - ½"	Gray	25	80	
TP7078	With Lugs	3 - ¾"	Gray	25	80	
TP7082	With Lugs	3 - 1"	Gray	25	80	

TWO GANG - 30.5 CUBIC INCH CAPACITY

2" DEEP, ALL TWO GANG BOXES HAVE 2 MOUNTING LUGS AS STANDARD **CAST ALUMINUM - UL LISTED FOR WET LOCATIONS**











TP7086 - TP7090

TP7094, TP7098

TP7102, TP7106

TP7110, TP7114

TP7118, TP7122

Cat. #	Description	Unit Qty.	Color	Wt. Lbs. Per 100
TP7086	3 – ½" Holes	10	Gray	83.3
TP7087	3 - 1/2" Holes	10	White	83.3
TP7088	3 - 1/2" Holes	10	Bronze	83.3
TP7090	3 - 3/4" Holes	10	Gray	83.3
TP7094	4 - 1/2" Holes	10	Gray	83.3
TP7098	4 - 3/4" Holes	10	Gray	83.3
TP7102	5 - ½" Holes	10	Gray	83.3
TP7106	5 – ¾" Holes	10	Gray	83.3
TP7110	7 - ½" Holes	10	Gray	83.3
TP7114	7 - 3/4" Holes	10	Gray	83.3
TP7118	5 - ½" Holes	10	Gray	83.3
TP7122	5 – 3/4" Holes	10	Grav	83.3

TWO AND THREE GANG DEEP

25/8" DEEP, ALL BOXES ARE STANDARD WITH MOUNTING LUGS **CAST ALUMINUM - UL LISTED FOR WET LOCATIONS**







TP7126, TP7130, TP7134

TP7137, TP7138, TP7142

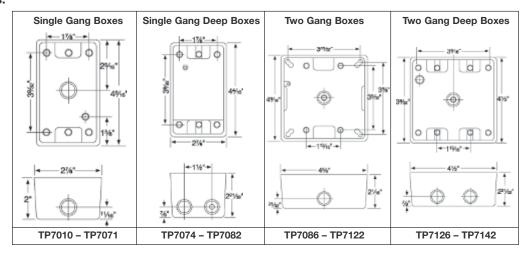
TP7143, TP7144

Cat. #	Description	Color	Unit Qty.	Capacity Cu. In.	Wt. Lbs. Per 100
	EP WEATHERPROOF OUTLET BO		Offic Gry.	ou. III.	1 01 100
TP7126	5 – 1/2" Holes	Gray	6	37	140
TP7130	5 – ½ Holes 5 – ¾" Holes	Gray	6	37	140
TP7134	5 – 1" Holes	Gray	6	37	140
TP7137	7 – ½" Holes	Gray	6	37	140
TP7138	7 – ½ Holes 7 – ¾" Holes	Gray	6	37	140
TP7142	7 – 1" Holes	Gray	6	37	140
THREE GANG I	DEEP WEATHERPROOF OUTLET	BOXES			
TP7143	7 - 3/4" Holes	Grav	5	59	159
TP7144	7 – 1" Holes	Gray	5	59	159

Weatherproof Outlet Boxes

Dimensions

In Inches:



ONE & TWO GANG WEATHERPROOF EXTENSIONS

1" DEEP, DIE-CAST ALUMINUM EXTENSION RING GASKET AND MOUNTING SCREWS INCLUDED WITH COVER UL LISTED FOR WET LOCATIONS







TP7123

Cat. #	Description	Color	Unit Qty.	Capacity Cu. In.	Wt. Lbs. Per 100
TP7120	Single Gang	Gray	25	9	27.2
TP7123	Two Gang	Gray	10	10	27.2

EXTENSION ADAPTER

DIE-CAST ALUMINUM, UL LISTED FOR WET LOCATIONS 3 CLOSURE PLUGS, MOUNTING SCREW AND GASKET INCLUDED WITH COVER



Cat. #	Description	Color	Unit Qty.	Capacity Cu. In.	Wt. Lbs. Per 100
TP7173	4 - ½" Holes	Gray	25	9.5	23.6
TP7174	4 – ¾" Holes	Gray	25	13.0	27.8

4" ROUND - 15.5 CUBIC INCH CAPACITY

 $1 \ensuremath{^{1\!/\!\!2}}"$ DEEP, DIE-CAST ALUMINUM, UL LISTED FOR WET LOCATIONS 4 CLOSURE PLUGS AND GROUND SCREW INCLUDED WITH BOX **GASKET AND 2 MOUNTING SCREWS INCLUDED WITH COVER**



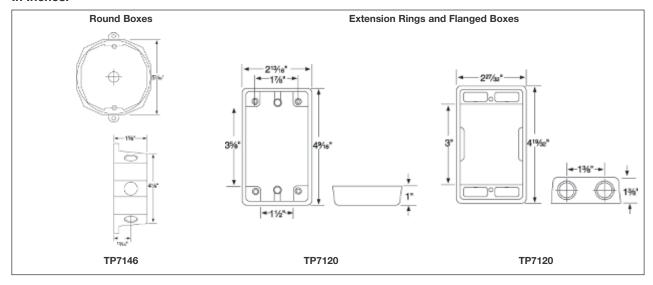


Cat. #	Side Holes	Back Hole	Unit Qty.	Color	Wt. Lbs. Per 100
TP7146	4 - 1/2"	1/2"	25	Gray	79.2
TP7148	4 - 1/2"	1/2"	25	White	79.2
TP7149	4 - 1/2"	1/2"	25	Bronze	79.2
TP7150	4 - 3/4"	3/4"	25	Gray	79.2
TP7158	Blank Cover P	late	50	Gray	20.8
WITH BLANK	PLATE				
TP7147	4 - 1/2"	1/2"	24	Gray	100
TP7151	4 - 3/4"	3/4"	24	Gray	100
2" DEEP ROU	ND WEATHERPROO	F OUTLET BOX EXTE	ENSION (18.3 CUBIC INCH	I CAPACITY)	
TP7152	4 - 1/2"	_	25	Grav	58.3

TP7152

Dimensions

In Inches:



Weatherproof Outlet Covers

CLOSURE PLUGS - ZINC DIE-CAST*

Cat. #	Description	Color	Unit Qty.	Wt. Lbs. Per 100
TP7940	1/2"	Gray	100	1.5
TP7941†	1/2"	White	100	1.5
TP7942†	1/2"	Bronze	100	1.5
TP7944	3/4"	Gray	50	2.1
TP7948	1"	Gray	50	3
*CSA certified †Plastic				



ONE GANG

SELF-CLOSING COVERS WITH GASKETS UL LISTED, DIE-CAST ALUMINUM











TP7199

TP7202

TP7206 - TP7209

TP7214

TP7218









TP7236 - TP7238

TP7240 - TP7242

TP7232

TP7233

Cat. #	Description	Color	Unit Qty.	Wt. Lbs. Per 100
TP7199	One Gang Vertical Duplex Cover	Gray	50	61.1
TP7202	One Gang – For Single Receptacle or Switch – 1.45" Dia. Opening	Gray	25	42.0
TP7206	One Gang – For Duplex Receptacle or Combination Switch	Natural	50	38.0
TP7207	One Gang – For Duplex Receptacle or Combination Switch	Gray	50	38.0
TP7208	One Gang – For Duplex Receptacle or Combination Switch	White	50	38.0
TP7209	One Gang - For Horizontal Duplex Receptacle or Combination Switch	Bronze	50	38.0
TP7214	One Gang Vertical - For Single Receptacle or Switch 1.62" Dia. Opening	Gray	25	61.1
TP7218	One Gang - For 20, 30 and 50 A Receptacles (2.125" Dia.)	Gray	25	55.6
TP7232	One Gang Stay Open - For Duplex Receptacles, Switches or	Natural	50	38.0
	Combination Devices, Non UL Listed			
TP7233	One Gang Stay Open - For Horizontal Duplex Receptacles, Switches or	Gray	50	38.0
	Combination Devices, Non UL Listed			
TP7236	One Gang – For Horizontal GFI Devices	Gray	25	42
TP7237	One Gang – For Horizontal GFI Devices	White	25	42
TP7238	One Gang – For Horizontal GFI Devices	Bronze	25	42
TP7240	One Gang - For Vertical GFI Devices	Gray	25	54
TP7241	One Gang - For Vertical GFI Devices	White	25	54
TP7242	One Gang - For Vertical GFI Devices	Bronze	25	54

TWO GANG

SELF-CLOSING GFI COVERS WITH GASKETS UL LISTED, DIE-CAST ALUMINUM





TP7224









TP7220

TP7228

14 TP7248

18 TP7252

Cat. # Description	Color	Unit Qty.	Wt. Lbs. Per 100
TP7220 Two Gang – For Two Single Receptacles and/or Switches	Gray	10	66.7
TP7224 Two Gang - For One Single Receptacle (1.406" Dia.) or Switch and One Duplex Receptacle (1.406" Dia.)	ptacle, Gray	10	62.0
Switch or Combination Device			
TP7228 Two Gang – For Two Duplex Receptacles, Switches or Combination Device	Gray	10	61.1
TP7244 Two Gang – For Vertical GFI Devices and One Single Switch or Receptacle	Gray	10	61.1
TP7248 Two Gang – For One Vertical GFI Device and One Duplex Receptacle,	Gray	10	61.1
Switch or Combination Device			
TP7252 Two Gang – For Two GFI Devices	Gray	10	55.6

ONE & TWO GANG

TOGGLE SWITCH COVERS
WITH GASKETS STAMPED ALUMINUM
UL LISTED







TP7268

	/6 THOR		Wt. Lbs.
Cat. #	Description	Unit Qty.	Per 100
TP7260	One Gang With 15A 125V Single Pole Switch	50	27.8
TP7268	Two Gang	10	16.7
TP7272	Two Gang With 2 – 15A 125V Single Pole Switch	10	33.3
TP7276	Two Gang With 2 – 15A 125V 3-Way Switch	10	33.3
TP7280	One Gang Extended Switch Cover - (for use with Standard Switch)	50	34.1

While In Use Covers

WHILE-IN-USE COVERS

FOR ONE & TWO GANG BOXES "CONSTANT USE" DUPLEX/GFI COVER UL & CSA LISTED, POLYCARBONATE

Single gang covers have a patented design with moveable hinges that reposition easily for vertical or horizontal mounting, with no tools required.







Eaton's Crouse-Hinds' while-in-use covers offer a rugged, versatile design that protects against various elements such as rain, snow, and ice. They are available in gray and white, single gang, single gang deep, and double gang to offer 98 different configurations! The single gang covers have a patented design with moveable hinges that reposition easily for vertical or horizontal mounting, with no tools required. They are great for use with vending machines, holiday lighting, portable signs, outdoor lighting, outdoor hot tubs, and more!

Features

- Rugged UV resistant polycarbonate cover and back protects device inside from rain, sleet, and snow without cracking or breaking and is non-corrosive and non-conductive
- Covers have a versatile product design with moveable hinges that reposition for vertical/horizontal mounting, which reduces the number of SKUs
- Each cover includes a pre-mounted neoprene gasket on the back, ensuring the gasket cannot fall off or be improperly positioned during installation - assuring a weatherproof installation every time!
- Available in 1 Gang, Self-closing Cover, Standard (3.25") and Deep (4.75") depths
- Available in 2 Gang, Self-closing Cover, Standard (3.25") depth
- Meets and exceeds outdoor lighting requirements
- Lockable cover (with customer added locking device) adds security
- Available in both gray and white to meet customer preference
- Compatible with FS and FD boxes

Certifications and Compliances:

- UL and cUL Listed
- Meets NEMA 3R requirements

Standard Materials:

- Cover, Back, and Hinges: Polycarbonate
- Gasket: Neoprene

Dimensions Disconsider of the state of the

TP7491W

TP7491

Deep Depth

1 Gang

TP7489W

TP7489

Standard Depth

2 Gang

Ordering Information

Catalog No.	Description	# of Configurations using inserts & moveable hinges	Color	Unit Qty.	Wt. Lbs. Per 100
TP7488	1 Gang, 3.25" Standard Depth, Self-closing Cover, Horizontal/Vertical Mount	16	Gray	6	45
TP7491	1 Gang, 4.75" Deep Depth, Self-closing Cover, Horizontal/Vertical Mount	16	Gray	3	48
TP7489	2 Gang, 3.25" Standard Depth, Self-closing Cover, Vertical Mount	66	Gray	4	77
TP7488W	1 Gang, 3.25" Standard Depth, Self-closing Cover, Horizontal/Vertical Mount	16	White	6	45
TP7491W	1 Gang, 4.75" Deep Depth, Self-closing Cover, Horizontal/Vertical Mount	16	White	3	48
TP7489W	2 Gang, 3.25" Standard Depth, Self-closing Cover, Vertical Mount	66	White	4	77

TP7488W

TP7488

Standard Depth

1 Gang

Weatherproof Outlet Covers

BLANK STEEL

WITH GASKETS UL LISTED FOR WET LOCATIONS









4
4

TP7296 - TP7298

TP7295 TP7158 - 7160

Cat. #	Description	Color	Unit Qty.	Wt. Lbs. Per 100
TP7292	One Gang	Gray	100	8.3
TP7293	One Gang	White	100	8.3
TP7294	One Gang	Bronze	100	8.3
TP7296	Two Gang	Gray	50	12.5
TP7297	Two Gang	White	50	12.5
TP7298	Two Gang	Bronze	50	12.5
TP7295	Three Gang	Gray	25	17
TP7158	Blank Round	Gray	50	21
TP7159	Blank Round	White	50	21
TP7160	Blank Round	Bronze	50	21

ROUND AND RECTANGULAR

WITH GASKETS, DIE-CAST ALUMINUM, UL LISTED FOR WET LOCATIONS FOR USE WITH WEATHERPROOF LAMPHOLDERS









TP7300 - 7302

TP7308 - 7310

TP7312 - 7314

TP7320 - 7322

Cat. #	Description	No. of Outlet Holes	Color	Unit Qty.	Wt. Lbs. Per 100
TP7300	41/2" Round	1 - 1/2"	Gray	25	20.8
TP7301	4½" Round	1 - 1/2"	White	25	20.8
TP7302	4½" Round	1 - 1/2"	Bronze	25	20.8
TP7308*	41/2" Round	3 - 1/2"	Gray	25	33.3
TP7309*	41/2" Round	3 - 1/2"	White	25	33.3
TP7310*	41/2" Round	3 - 1/2"	Bronze	25	33.3
TP7312	Rectangular	1 - 1/2"	Gray	25	33.3
TP7313	Rectangular	1 - 1/2"	White	25	33.3
TP7314	Rectangular	1 - 1/2"	Bronze	25	33.3
TP7316	Rectangular	2 - 1/2"	Gray	25	33.3
TP7317	Rectangular	2 - 1/2"	White	25	33.3
TP7318	Rectangular	2 - 1/2"	Bronze	25	33.3
TP7320	Rectangular	3 - 1/2"	Gray	25	33.3
TP7321	Rectangular	3 - 1/2"	White	25	33.3
TP7322	Rectangular	3 - 1/2"	Bronze	25	33.3

^{*}Comes with closure plug

Weatherproof Lampholders

LAMPHOLDERS AND ACCESSORIES

DIE-CAST ALUMINUM CONSTRUCTION, UP TO 150 WATTS, WITH LAMP GASKET, UL LISTED







	TP7162 - TP7165	TP7166			TP7176
Cat. #	Description		Color	Unit Qty.	Wt. Lbs. Per 100
TP7162	Universal Par Lampholder		Natural	36	47.2
TP7163	Universal Par Lampholder		Gray	36	47.2
TP7164	Universal Par Lampholder		White	36	47.2
TP7165	Universal Par Lampholder		Bronze	36	47.2
TP7166	Universal Par Lampholder With External Gasket		Gray	36	50
TP7170	External Gasket Only		_ ´	100	3
TP7176	Clamp-On Guard		_	24	50

WEATHERPROOF LAMPHOLDERS AND ACCESSORIES

DIE-CAST ALUMINUM CONSTRUCTION, UP TO 150 WATTS, WITH LAMP GASKET, UL LISTED







TP7178

TP7186 TP7188 (Aluminum)

Cat. #	Description	Color	Unit Qty.	Wt. Lbs. Per 100
TP7178	Par Lampholder With Reflector	Gray	6	166.7
TP7186	Portable Par Lampholder With 6' Cord	Gray	12	100
TP7188	21/2" Outside Diameter Pole Fitter with 1/2" Male Thread	Gray	24	50

LAMPHOLDER COMBINATIONS

DIE-CAST ALUMINUM CONSTRUCTION, WITH GASKETS, UL LISTED



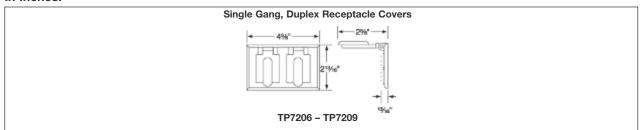
TP7330 - TP7332

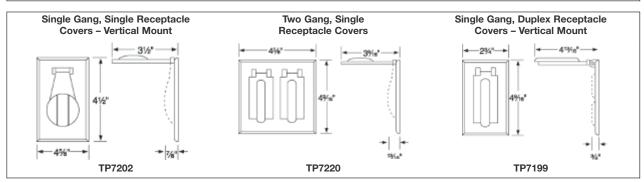
Cat. #	Description	Color	Unit Qty.	Wt. Lbs. Per 100
TP7330	2 Par Lampholders and 3-Hole Round Cover	Gray	10	137.5
TP7331	2 Par Lampholders and 3-Hole Round Cover	White	10	137.5
TP7332	2 Par Lampholders and 3-Hole Round Cover	Bronze	10	137.5

Weatherproof Outlet Covers

Dimensions

In Inches:





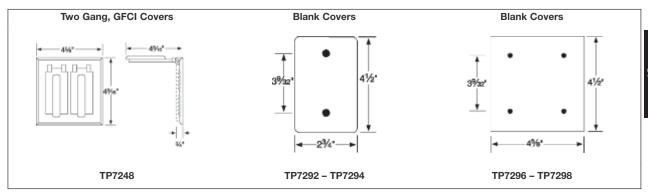


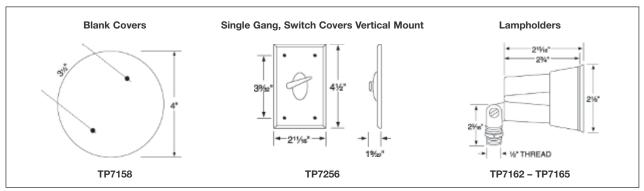
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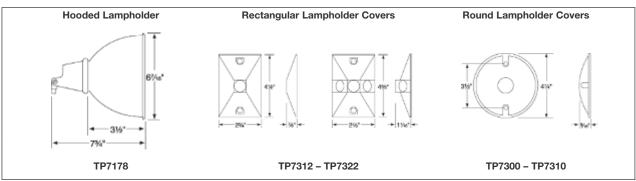
Weatherproof Outlet Covers

Dimensions

In Inches:







Flexible Fixture Hangers

Eaton's Crouse-Hinds TPSFH and TPRFH flexible fixture hangers are used in commercial or light industrial applications where HID high bay and low bay lighting fixtures are used. Specific applications include storage facilities, shipping warehouses, retail and DIY facilities

Features and Benefits:

- Suitable for use with ¹/₂" or ³/₄" fixture conduit stems these hangers allow the conduit stem of the fixture (luminaire) to swing in any direction. Maximum swing angle is 26° from vertical max slope angles 22-1/2°.
- Available in two styles; one for attachment to round or octagonal steel boxes, the other for attachment to 4" square steel boxes.
- · Both styles are quickly and easily attached by two screws.
- Hangers are drilled and tapped for use with ¾" conduit stem as standard and come supplied with a ¾" – ½" reducer for ½" conduit stem applications.

Certifications and Compliances:

- UL Listed UL 1598
- CSA C22.2 No. 250
- Suitable for Damp Locations

Materials and Finishes:

- · Material: Sheet Steel
- · Finish: Zinc Chromate for corrosion resistance

Swiv-L-Drop™ Canopy Fixture Hangers

The Swiv-L-Drop Canopy Hanger utilizes a patented spring design to provide vibration and shock protection for pendant mounted fixtures in both horizontal and vertical directions. Designed to fit 3" or 4" outlet boxes, the Swiv-L-Drop is for use with ½" fixture conduit stems. The smooth, white canopy provides an aesthetically pleasing appearance and installs quickly and easily without the use of tools.

Certifications and Compliances:

- UL Listed UL 1598
- Suitable for Dry Locations

Materials and Finishes:

- Material: Sheet Steel
- Finish: Canopy painted white

Sway Adapters

The Sway Adapter installs quickly and easily to pendant mounted fixtures and compensates for shocks and motion due to movements, vibration, earthquakes or other sources by allowing for lateral movement up to 45 degrees. The Sway Adapter can be used independently or in conjunction with the Swiv-L-Drop hanger. The Sway Adapter is also finished in an aesthetically pleasing white painted finish and is designed for use with ½" conduit stems and has ½" male threads.

Certifications and Compliances:

- UL Listed UL 1598
- Suitable for Dry Locations

Materials and Finishes:

- Material: Sheet Steel
- Finish: sway adapter painted white



Description	Support Wt. (lbs)	Cat. #
For use with 4" Round or Octagon Boxes	50	TPRFH12
For use with 4" Square boxes	50	TPSFH12



Description	Support Wt. (lbs)	Cat. #
Swiv-L-Drop Canopy Hanger for use with 3" or 4" Outlet boxes for use with ½" Conduit Stems. Painted.	50*	S 1 1/2 PAINTED
Swiv-L-Drop Canopy Hanger for use with 3" or 4" Outlet boxes for use with ½" Conduit Stems. Unpainted.	50*	S 1 1/2 UNPAINTED
For use with %" Conduit Stems. Painted.	50*	S 1 3/8 PAINTED
For use with %" Conduit Stems. Unpainted.	50*	S 1 3/8 UNPAINTED

*65 lbs. rated with a minimum 12-inch stem if fully supported by other than an outlet box.



Description	Ca
Sway adapter for use with 1/2" Conduit Stem	

(male thread is %")

SA 1V

Crouse-Hinds

Vapor Proof Lighting Incandescent

Key Features and Benefits:

- Durable die cast housing and guard for long product life
- Powder paint finish for corrosive enviroments
- · Available in pendant, box and wall mounts
- Fixtures may be purchased complete or as components
- Fixtures constructed of die cast aluminum; screw-on guards are zinc die cast
- Heat-resistant clear globe available on 100 watt series
- Wire guard available

Certifications and Compliances:

- UL Standard UL1598
- UL Listed File No. E15625
- cUL Standard CSA-C22.2 No 250.0
- Suitable for Wet Locations
- 100W max incandescent series is UL approved for 27W max SBCFL (equivalent to 100W incandescent)
- 200W max incandescent series is UL approved for 42W max SBCFL (equivalent to 200W incandescent)

Clear glass is standard, colors are available, plastic (polycarbonate) globes which are virtually unbreakable are available in colors and are used as an alternative to glass globe-guard combinations (not recommended to exceed 60 watts).

VAPOR PROOF FIXTURES – GASKETED CORROSION-RESISTANT DIE CAST CONSTRUCTION, GLASS GLOBES, DIE CAST GUARDS, UL LISTED



















TP7600, TP7601

TP7800, TP7801, TP7860

00, TP7610, 01, TP7611, 60 TP7805

TP7620, TP7621

20, TP7810, 21 TP7811

TP7630, TP7815

TP7640

TP7820

TP7650, TP7825

		Hole	Incandescent	SBCFL	Std. Unit	Wt. Lbs.
Cat. #	Description	Size	Watts	Watts	Carton	Per 100
4" BOX MO	UNTED					
TP7600*	Clear Globe, Cast Guard	1/2"	100	27	1	325
TP7601	Clear Globe, Cast Guard	3/4"	100	27	1	324
TP7800	Clear Globe, Wire Guard	1/2"	200	42	1	516.7
TP7801	Clear Globe, Wire Guard	3/4"	200	42	1	516
TP7860	Fluorescent Clear Globe, Wire Guard	1/2"	13	-	1	413
TP7610	Clear Globe	1/2"	100	27	1	258.3
TP7611	Clear Globe	3/4"	100	27	1	258
TP7805	Clear Globe	1/2"	200	42	1	283.3
PENDANT I	MOUNT					
TP7620	Clear Globe, Cast Guard	1/2"	100	27	1	300
TP7621	Clear Globe, Cast Guard	3/4"	100	27	1	299
TP7810	Clear Globe, Wire Guard	1/2"	200	42	1	350
TP7811	Clear Globe, Wire Guard	3/4"	200	42	1	349
TP7630	Clear Globe	1/2"	100	27	1	208.4
TP7815	Clear Globe	1/2"	200	42	1	258.4
SURFACE N	MOUNT, FITS 3" and 4" ROUND BOXES					
TP7640	Clear Globe, Cast Guard	_	100	27	1	275
TP7820	Clear Globe, Wire Guard	_	200	42	1	333.3
TP7650	Clear Globe	_	100	27	1	216.7
TP7825	Clear Globe	_	200	42	1	180

Vapor Proof Lighting Incandescent





TP7670, TP7835

TP7845

Cat. #	Description	Incandescent Watts	SBCFL Watts	Std. Unit Carton	Wt. Lbs. Per 100
RIGHT ANG	LE BRACKET FIXTURES				
TP7660	Clear Globe, Cast Guard	100	27	1	300
TP7830	Clear Globe, Wire Guard	200	42	1	516.7
TP7670	Clear Globe	100	27	1	200
TP7835	Clear Globe	200	42	1	400
BOX MOUN	ITED				
TP7680	Clear Globe, Cast Guard	100	27	1	350
TP7840	Clear Globe, Wire Guard	200	42	1	560
TP7845	Clear Globe	200	42	1	450

VAPOR PROOF COMPONENTS











Pendant

Ceiling Box Cap

Ceiling Box

Right Angle

Right Angle/Box

Cat. # Description PENDANT CAP, PORCELAIN SOCKET GASKET A	Incandescent Watts ND SCREWS	SBCFL Watts	Std. Unit Carton	Wt. Lbs. Per 100
<u> </u>	ND SCREWS	Watts	Carton	Per 100
PENDANT CAP, PORCELAIN SOCKET GASKET A				
	100			
TP7496 Gray, 1/2"		27	10	18
TP7497 Gray, 3/4"	100	27	10	18
TP7498 Gray, 1/2"	200	42	10	10
TP7499 Gray, ³ / ₄ "	200	42	10	10
CEILING BOX CAP, SOCKET GASKET AND SCRE	WS			
TP7447 Gray	100	27	10	12
TP7479 Gray	200	42	10	12
CEILING MOUNT BOX WITH GASKETS, PORCEL	AIN SOCKET AND SCREWS			
TP7450 Gray, 1/2"	100	27	10	19
TP7478 Gray, 3/4"	100	27	10	19
TP7451 Gray, 1/2"	200	42	10	19
TP7479 Gray, 3/4"	200	42	10	19
RIGHT ANGLE BRACKET GASKET, SOCKET, SCR	EWS			
TP7445 Gray	100	27	10	21
TP7446 Gray	200	42	6	12
RIGHT ANGLE BRACKET ATTACHED BOX, GASK	ET, SOCKET AND SCREWS			
TP7440 Gray, 1/2"	100	27	1	3

Vapor Proof Lighting Incandescent

VAPOR PROOF FIXTURE ACCESSORIES











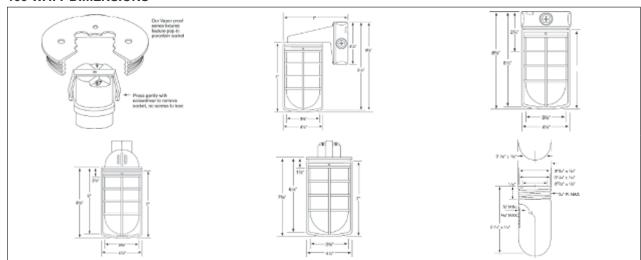
TP7460 - TP7466 TP7468 - TP7472 TP7474, TP7475 TP7476

TP7477

Cat. #	Description	Incandescent Watts	SBCFL Watts	Std. Unit Carton	Wt. Lbs. Per 100
TP7460	Glass Clear Globe, 130 °F Max	100	27	12	98
TP7462	Glass Amber Globe	100	27	12	120
TP7463	Glass Blue Globe	100	27	12	120
TP7464	Glass Green Globe	100	27	12	120
TP7466	Glass Clear Globe	200	42	6	200
TP7468	Lexan Clear Prismatic	75	_	12	58.4
TP7469	Lexan Blue Prismatic	60	_	12	58.4
TP7470	Lexan Red Prismatic	75	_	12	58.4
TP7471	Lexan Amber Prismatic	75	_	12	58.4
TP7472	Lexan White	75	_	12	58.4
TP7474	Bayonet Mount Die-Cast Guard	100	27	12	108.4
TP7475	Wire Guard	200	42	6	183.4
TP7476	Clamp-On Wire Guard	100	27	12	62.5
TP7477	Adapter Plate	_	_	12	62.5

VAPOR PROOF DIMENSIONS

100 WATT DIMENSIONS



200 WATT

Cat. #	Length	Overall Width	Depth
TP7830	121/2"	51/2"	61/8"
TP7840	121/2"	51/2"	8"
TP7820	71/2"	41/2"	_
TP7810	111/2"	51/2"	_
TP7800	103/4"	51/2"	_

Crouse-Hinds

PHOTOELECTRIC LIGHTING CONTROLS



TP7925



- Use for sunset activated automatic contol of night lighting
- May be used to control outdoor lighting and signs



TP7927

Features:

- Durable weatherproof construction
- Built-in time delay prevents operation triggered by temporary light flashes

Cat. #	Description	Std. Unit Pkg.	Wt. Lbs. Per 100
TP7925	1200W Swivel Photo Cell 120V	10	8.3
TP7927	300W Photo Cell 120V	10	8.3

W-Series Junction Boxes

Application and Selection

Applications:

Junction boxes, designed for hazardous and non-hazardous locations, are used in a variety of industries to perform the following functions:

- As a pull box
- To provide enclosures for splices and taps
- As a mounting box for multi-device control stations
- For housing apparatus, instruments, and other devices

Considerations for Selection:

- Environmental location the physical location of the junction box will call for proper construction of the box to meet National Electrical Code requirements and will affect the material and finish needed to meet weather and corrosive conditions, if present.
- Number and size of conductors combined with the function to be performed (i.e., splicing, pull box), determines the amount of space needed, and therefore, the required physical dimensions of the box.
- Conduit layout determines the number, size, and location of the conduit openings in the box. It will also determine the type of mounting required (i.e., flush or surface positioning of the box).
- Flexibility required if changes in the electrical system are anticipated, the box chosen should be easily adaptable, either by construction or size to the future system.

Options and Accessories:

A wide variety of options and accessories for special application are available for the various junction box families. These can be selected once the type of junction box has been determined. These options are shown on the individual pages. Some of the options available include:

- Special covers
- Hinged covers
- Materials and finishes
- · Equipment mounting plates
- · Conduit or device openings
- Corro-free[™] epoxy powder coat information available on request

Quick Selector Chart

Junction Boxes	Environmental Capability/Type Designation	Size Range† L, W, D Inside	Max. Conduit Opening Size	Mtg.	Cover Type	Cover Material
WAB	Raintight/Type 3, 4 Dust-tight/Type 12	4 x 4 x 2 to 72 x 30 x 16	5	Surface	Unflanged	Steel
WCB	Raintight/Type 3, Watertight/Type 4, Dust-tight/Type 12	4 x 4 x 2 to 72 x 30 x 16	5	Surface	Overlapping	Cast iron
WJB	Raintight/Type 3, Watertight/Type 4	4 x 4 x 3 to 72 x 30 x 16	6	Surface	Flanged	Steel
WJBF	Raintight/Type 3, Watertight/Type 4	4 x 4 x 4 to 72 x 30 x 16	6	Flush	External flanged recessed sidewalk	Steel (checkered)
WEB	Raintight/Type 3	4 x 4 x 3 to 36 x 36 x 12	6	Flush	Internal Flanged	Steel

[†]Length and width are inside dimensions. Depth is inside dimension without cover.

Drilled and Tapped Conduit Openings or Slip Holes:

All W-Series cast-iron junction boxes may be ordered with drilled and tapped conduit openings or slip holes - subject to minimum spacing limitations.

To order a box from the factory with conduit openings, consult factory.

WJBF Checkered Cover Sidewalk Junction Boxes

Heavy Duty External Flanged for Flush Mounting

Weatherproof Watertight Raintight NEMA 3, 4, 5 Cl. II, Groups E, F, G Cl. III

Applications:

WJBF boxes are primarily designed for surface mounting. WJBF heavy duty junction boxes are installed in conduit systems to:

- · Act as pull box for conductors
- Provide openings and space for making
- splices and taps in conductors
- Provide for branch conduit runsProvide access to conductors for
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical equipment

Features:

- Covers are suitable for vehicular traffic (H20 loading)
- Neoprene gasket cemented to cover
- Wide range of drilled and tapped conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads may be drilled and tapped for ¼" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6, for larger sizes consult factory

Certifications and Compliances:

- Weatherproof
- Watertight
- NEMA 3, 4, 5
- NEMA 250
- CEC:

Class II, Division 1, Groups E, F, G Class III

Encl. 3, 4, 5

H20 Vehicle Load Rating*

*Self certify to H20 vehicle load rating equivalent to 16,000 lbs. on cover center.

Standard Materials:

- · Iron alloy body
- Heavy-gauge steel (checkered) cover, mounting straps
- · Neoprene gaskets
- · Stainless steel cover screws

Standard Finishes:

 Iron alloy and heavy-gauge steel – hotdip galvanized

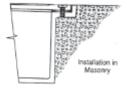
Options:

Description
Suffix
Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory





Length



Depth

Width

Ordering Information:

Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WJBF040404	1/4	4	4	4
WJBF060404	1/4	6	4	4
WJBF060604	1/4	6	6	4
WJBF060606	1/4	6	6	6
WJBF080604	1/4	8	6	4
WJBF080606	1/4	8	6	6
WJBF080804	1/4	8	8	4
WJBF080804 WJBF080806	1/4	8	8	6
WJBF080808	1/4	8	8	8
	1/4	10	8	6
WJBF100806 WJBF100808	1/4	10	8	8
	1/4			6
WJBF101006		10	10	
WJBF101008	1/4	10	10	8
WJBF120606	1/4	12	6	6
WJBF120806	1/4	12	8	6
WJBF120808	1/4	12	8	8
WJBF120810	5/16	12	8	10
WJBF121206	1/4	12	12	6
WJBF121208	1/4	12	12	8
WJBF121212	5/16	12	12	12
WJBF121218	5/16	12	12	18
WJBF140806	1/4	14	8	6
WJBF141410	5/16	14	14	10
WJBF161206	1/4	16	12	6
WJBF161208	1/4	16	12	8
WJBF161606	1/4	16	16	6
WJBF180806	1/4	18	8	6
WJBF180808	1/4	18	8	8
WJBF181006	5/16	18	10	6
WJBF181206	5/16	18	12	6
WJBF181208	5/16	18	12	8
WJBF181210	3/8	18	12	10
WJBF181212	5/16	18	12	12
WJBF181218	3/8	18	12	18
WJBF181806	3/8	18	18	6
WJBF181808	3/8	18	18	8
WJBF181812	3/8	18	18	12
WJBF181818	3/8	18	18	18
WJBF241208	3/8	24	12	8
WJBF241212	3/8	24	12	12
WJBF241808	3/8	24	18	8
WJBF241810	3/8	24	18	10
WJBF241812	3/8	24	18	12
WJBF241818	3/8	24	18	18
WJBF242412	3/8	24	24	12
WJBF242418	3/8	24	24	18
WJBF242424	3/8	24	24	24
WJBF302412	3/8	30	24	12
WJBF302418	3/8	30	24	18
WJBF362418	3/8	36	24	18
WJBF362424	3/8	36	24	24

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"

Depth

WJB Junction Boxes

Heavy Duty Flanged for Surface Mounting

Weatherproof Watertight Raintight NEMA 3, 4, 5 Cl. II, Groups E, F, G CI. III

Applications:

WJB boxes are primarily designed for surface mounting. WJB heavy duty junction boxes are installed in conduit systems to:

- · Act as pull box for conductors
- · Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- · Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical equipment

Features:

- Covers are suitable for vehicular traffic (H20 loading)
- Neoprene cover gasket
- · Wide range of drilled and tapped conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads may be drilled and tapped for 1/4" - 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6, for larger sizes consult factory

Certifications and Compliances:

- Weatherproof
- Watertight
- NEMA 3, 4, 5
- NEMA 250
- CEC:

Class II, E, F, G Class III

Encl. 3, 4, 5

Standard Materials:

- Iron alloy body
- Heavy-gauge steel cover and mounting straps
- Neoprene gaskets
- Stainless steel cover screws

Standard Finishes:

• Iron alloy and heavy-gauge steel - hotdip galvanized

Options:

Description Suffix Factory installed mounting plate MP Drilled and tapped conduit holes and slip holes available, Consult Factory

Wall

Length

Width

Ordering Information:

	Wall	Length	Width	Depth
Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WJB040403	1/4	4	4	3
WJB040404	1/4	4	4	4
WJB060404	1/4	6	4	4
WJB060604	1/4	6	6	4
WJB060604 WJB060606	1/4	6	6	6
WJB080604	1/4	8	6	4
WJB080606	1/4	8	6	6
WJB080804	1/4	8	8	4
WJB080806	1/4	8	8	6
WJB080808	1/4	8	8	8
WJB100806	1/4	10	8	6
WJB100808	1/4	10	8	8
WJB101006	1/4	10	10	6
			10	8
WJB101008 WJB120606	1/ ₄ 1/ ₄	10 12	6	6
WJB120806	1/4	12	8	6
WJB120808	1/4	12	8	8
WJB120810	1/4	12	8	10
WJB121206	5/16	12	12	6
WJB121208	5/16	12	12	8
WJB121212	5/16	12	12	12
WJB121218	5/16	12	12	18
WJB140806	5/16	14	8	6
WJB141410	5/16	14	14	10
WJB161206	5/16	16	12	6
WJB161208	5/16	16	12	8
WJB161606	5/16	16	16	6
WJB180806	5/16	18	8	6
WJB180808	5/16	18	8	8
WJB181006	5/16	18	10	6
WJB181206	5/16	18	12	6
WJB181208	5/16	18	12	8
WJB181210	5/16	18	12	10
WJB181212	5/16	18	12	12
WJB181218	3/8	18	12	18
WJB181806	3/8	18	18	6
WJB181808	3/8	18	18	8
WJB181812	3/8	18	18	12
WJB181818	3/8	18	18	18
WJB241208	3/8	24	12	8
WJB241212	3/8	24	12	12
WJB241808	3/8	24	18	8
WJB241810	3/8	24	18	10
WJB241812	3/8	24	18	12
WJB241818	9/16	24	18	18
WJB242412	9/16	24	24	12
WJB242418	9/16	24	24	18
WJB242424	9/16	24	24	24
WJB302412	9/16	30	24	12
WJB302418	9/16	30	24	18
WJB362418	9/16	36	24	18
WJB362424	9/16	36	24	24

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"

Applications:

Where a heavy duty dustproof, weatherproof enclosure is desired, WAB boxes are installed in conduit system to:

- Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- Wide range of drilled and tapped and slip hole conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads available blind tapped for 1/4" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6; for larger sizes consult factory

Certifications and Compliances:

- Dust-tight
- Weatherproof
- NEMA 3, 4, 12
- NEMA 250

Standard Materials:

- Iron alloy body
- Heavy-gauge steel cover
- Neoprene gaskets
- Stainless steel cover screws
- Steel mounting straps

Standard Finishes:

• Iron alloy and heavy gauge steel – hot dip galvanized

Options:

Description

Suffix

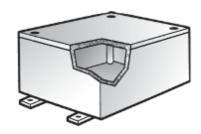
Factory installed mounting plate
Drilled and tapped conduit holes and
slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"



Wall



Width

Depth

Ordering Information:

	vvaii	Lengui	widti	Deptil	
Cat. #	Thickness (in.)	(in.)	(in.)	(in.)	
WAB040402	5/32	4	4	2	
WAB040403	3/16	4	4	3	
WAB040404	1/4	4	4	4	
WAB050503	1/4	5	5	3	
WAB050504	1/4	5	5	4	
WAB060403	1/4	6	4	3	
WAB060404	7/32	6	4	4	
WAB060603	1/4	6	6	3	
WAB060604	3/16	6	6	4	
WAB060606	9/32	6	6	6	
WAB080403	5/16	8	4	3	
WAB080604	⁷ / ₃₂	8	6	4	
WAB080606	5/16	8	6	6	
WAB080804	5/16	8	8	4	
WAB080806	5/16	8	8	6	
WAB080808	5/16	8	8	8	
WAB090604	5/16	9	6	4	
WAB100604	1/4	10	6	4	
WAB100804	1/4	10	8	4	
WAB100806	9/32	10	8	6	
WAB101006	1/4	10	10	6	
WAB120604	9/32	12	6	4	
WAB120606	9/32	12	6	6	
WAB120806	9/32	12	8	6	
WAB120808	3/8	12	8	8	
WAB121204	9/32	12	12	4	
WAB121206	9/32	12	12	6	
WAB121208	9/32	12	12	8	
WAB160606	1/4	16	6	6	
WAB161208	5/16	16	12	8	
WAB181206	5/16	18	12	6	
WAB181208	5/16	18	12	8	
WAB181210	3/8	18	12	10	
WAB181806	3/8	18	18	6	
WAB181812	7/16	18	18	12	
WAB241212*	⁷ / ₁₆	24	12	12	
WAB242408*	11/32	24	24	8	

Length

*NEMA 3 only. For NEMA 4 in these sizes, use WCB Larger sizes available up to 72" x 30" x 16" - Consult Factory

WCB Junction Boxes

Heavy Duty Overlapping Cover for Surface Mounting

Dust-tight Weatherproof Watertight Raintight NEMA 3, 4, 12

Applications:

Where a heavy duty dust-tight, weatherproof, raintight, or watertight enclosure is desired. WCB boxes are installed in conduit systems to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- · Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical devices



- Flat neoprene cover gasket
- Overlapping cover sheds environment
- Wide range of drilled and tapped and slip hole conduit entrance sizes and locations permits maximum flexibility of use in conduit system
- · Internal equipment mounting pads available blind tapped for 1/4" - 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6; for larger sizes consult factory

Certifications and **Compliances:**

- Dust-tight
- Weatherproof
- Raintight
- Watertight
- NEMA 3, 4, 12
- NEMA 250

Standard Materials:

- Iron alloy cover and body
- Neoprene gaskets
- · Stainless steel cover screws
- Steel mounting straps

Standard Finishes:

• Iron alloy - hot dip galvanized

Options:

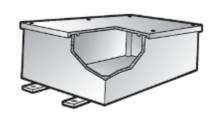
Description

Suffix Factory installed mounting plate MP Drilled and tapped conduit holes and slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"





Width

Depth

Ordering Information:

Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WCB040402	5/32	4	4	2
WCB040403	3/16	4	4	3
WCB040404	1/4	4	4	4
WCB050503	1/4	5	5	3
WCB050504	1/4	5	5	4
WCB060403	1/4	6	4	3
WCB060404	7/32	6	4	4
WCB060603	1/4	6	6	3
WCB060604	3/16	6	6	4
WCB060606	9/32	6	6	6
WCB080403	5/16	8	4	3
WCB080604	⁷ / ₃₂	8	6	4
WCB080606	5/16	8	6	6
WCB080804	5/16	8	8	4
WCB080806	⁵ / ₁₆	8	8	6
WCB080808	⁵ / ₁₆	8	8	8
WCB090604	5/16	9	6	4
WCB100604	1/4	10	6	4
WCB100804	1/4	10	8	4
WCB100806	9/32	10	8	6
WCB101006	1/4	10	10	6
WCB120604	9/32	12	6	4
WCB120606	9/32	12	6	6
WCB120806	9/32	12	8	6
WCB120808	3/8	12	8	8
WCB121204	9/32	12	12	4
WCB121206	9/32	12 12	12 12	6 8
WCB121208	9/ ₃₂ 1/ ₄	16	6	6
WCB160606 WCB161208	5/ ₁₆	16	12	8
WCB181206	5/ ₁₆	18	12	6
WCB181208	⁷ /16 ⁵ / ₁₆	18	12	8
WCB181210	3/8	18	12	10
WCB181210 WCB181806	3/8	18	18	6
WCB181812	7/16	18	18	12
WCB241212	7/16 7/ ₁₆	24	12	12
WCB242408	11/32	24	24	8
**************************************	/ 32	47	4	U

Length

Larger sizes available up to 72" x 30" x 16" - Consult Factory

WEB Junction Box

Heavy Duty Internal Recess Flange for Flush Mounting

Dust-tight Raintight NEMA 3

Applications:

WEB Junction Boxes are installed:

- Where a heavy duty, dust-tight or raintight enclosure is desired
- To act as pull box for conductors
- To provide openings and space for making splices and taps in conductors
- To provide for branch conduit runs
- To provide access to conductors for maintenance and future system changes
- To enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- Internal equipment mounting pads
- Stainless steel cover screws
- Internal ground screw

Certifications and Compliances:

- NEMA 250
- NEMA 3

Standard Materials:

- Iron alloy body, hot dip galvanized
- Heavy-gauge steel cover, hot dip galvanized
- Stainless steel cover screws
- Neoprene gaskets

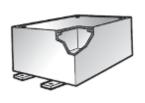
Options:

Description Suffix All boxes are available with optional

MP

mounting plate

Drilled and tapped conduit holes and slip holes available, Consult Factory





Ordering Information:

Cat. #	Wall Thickness (in.)	Length (in.)	Width (in.)	Depth (in.)	
WEB040403	7/32	4	4	3	_
WEB040404	1/4	4	4	4	
WEB060604	9/32	6	6	4	
WEB060606	1/4	6	6	6	
WEB080804	9/32	8	8	4	
WEB080806	1/4	8	8	6	
WEB121206	9/32	12	12	6	
WEB160606	9/32	16	6	6	
WEB160806	1/4	16	8	6	
WEB180808	5/16	18	8	8	
WEB240606	9/32	24	6	6	
WEB240808	5/16	24	8	8	
WEB241010	3/8	24	10	10	
WEB241210	5/16	24	12	10	
WEB241212	5/16	24	12	12	
WEB241812	3/8	24	18	12	
WEB361212	3/8	36	12	12	
WEB361812	3/8	36	18	12	
WEB362412	⁷ / ₁₆	36	24	12	
WEB363612	⁷ / ₁₆	36	36	12	

Crouse-Hinds

by **F**:**T·N**

W Series Junction Boxes

Ordering Information

DRILLED AND TAPPED CONDUIT OPENINGS OR SLIP HOLES

All W-Series cast-iron junction boxes may be ordered with drilled and tapped conduit openings or slip holes – subject to minimum spacing limitations listed in Table 1.

To order a box from the factory with conduit openings:

Option 1:

Send in a sketch of the box with openings specified (subject to spacing limitations specified in Table 1). **OR**

Option 2:

- Step 1: Select one of the four standard arrangements in Table 2, based on number and location of conduit entries.
- Step 2: Pick a symbol from Table 3 for each opening in the arrangement (see example).
- Step 3: Table 4 lists the maximum size and number of conduit openings by box size and the spacing dimensions. Use Table 4 to verify the openings selected are permitted.

Example – Catalog number logic:

- 1. Select box required: WAB121208.
- 2. User wants one ½" drilled and tapped hole in the top of the box, two 1" drilled and tapped holes on both sides and three ½" slip holes in the bottom of the box.
- **3.** Select arrangement 3 because it allows up to three openings per side.
- 4. Next the symbols for the openings are substituted and written in clockwise order starting with location "a". The catalog number is written in three parts; part 1 – box number, part 2 – arrangement number, part 3 – symbols for the conduit openings.
- **5.** For this example the box would be ordered as:

WAB12	21208-3-PAO COC 1	A1A1A CoC
Box	Arrangement #	Symbols
Cat.#	-	for openings

Table 1 Minimum spacing between centers of conduits

Size of												
Conduit	6"	5"	4"	31/2"	3"	2 1/2"	2"	11/2"	11/4"	1"	3/411	1/211
1/2"	5	43/8	35/8	33/8	3	25/8	23/8	2	17/8	13/4	15/8	11/2
3/4"	51/8	$4^{1}/_{2}$	33/4	$3^{1}/_{2}$	31/8	2 ³ / ₄	21/2	21/8	2	1 ⁷ / ₈	1³/₄	
1"	51/4	45/8	4	35/8	31/4	3	25/8	23/8	21/4	2		
11/4"	51/2	$4^{7}/_{8}$	41/8	37/8	31/2	31/8	27/8	21/2	23/8			
11/2"	55/8	5	$4^{1}/_{4}$	4	35/8	31/4	3	25/8				
2"	6	5 ³ / ₈	45/8	41/4	37/8	35/8	31/4					
21/2"	61/4	5 ⁵ / ₈	$4^{7}/_{8}$	45/8	$4^{1}/_{4}$	37/8						
3"	65/8	6	53/8	5	45/8							
31/2"	7	61/4	55/8	51/4								
4"	71/4	65/8	57/8									
5"	8	71/4										
6"	85/8											

Table 2
Standard conduit arrangements

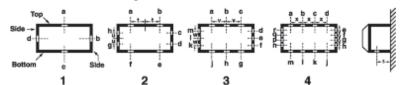
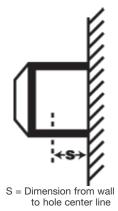


Table 3Symbols for openings

Conduit Size	Drilled and Tapped Hole	Slip Hole
1/2"	A	1A
3/4"	В	1B
1"	С	1C
11/4"	E	1E
11/2"	F	1F
2"	G	1G
21/2"	Н	1H
3"	J	1J
31/2"	K	1K
4"	L	1L
5"	M	1M
6"	N	1N
None	0 (Zero)	0 (Zero)



W Series Junction Boxes

Ordering Information

DRILLED AND TAPPED CONDUIT OPENINGS OR SLIP HOLES Table 4

Maximum Size and Number of Drilled and Tapped Conduit

Openings Top and Bottom† Sides Spacing Dimensions* W Series Cat. # 2 3 u У 040402 3/4 3/4 3/4 11/4 7/8 7/8 040403 11/4 7/8 11/4 3/4 3/4 15/8 7/8 040404 3/4 21/4 2 2 _ 7/8 **1**1/4 7/8 **1**1/4 3/4 _ _ 050503 11/4 3/4 11/4 3/4 15/8 050504 21/4 2 1 1 11/4 11/4 060403 11/4 15/8 3/4 3/₄
3/₄ 7/8 11/4 3/4 13/8 13/4 060404 21/4 11/ 2 3/, 13/ 7/8 13/4 3/4 060603 11/4 3/₄ 3/₄ 11/4 11/4 13/8 13/8 13/4 13/4 11/4 11/4 060604 3/4 21/1 11/2 11/2 13/ 13/0 13/4 13/4 4 060606 4 11/2 $\frac{3}{4}$ 11/2 $\frac{3}{4}$ 33/8 13/8 13/8 13/4 13/4 080403 15/8 $\frac{3}{4}$ 11/4 ⁷/8 11/4 11/4 3/4 15/8 21/2 _ 3/4 13/4 080604 21/4 13/8 13/4 3/4 2 11/2 15/8 21/2 4 080606 2 3/4 11/2 $\frac{3}{4}$ 33/0 15/8 13/8 21/2 13/4 13/4 2 080804 2 2 $\frac{3}{4}$ 2 1 3/4 21/4 15/8 15/8 21/2 21/2 13/4 13/4 080806 2 3/4 4 2 $\frac{3}{4}$ 33/8 15/8 15/8 21/2 21/2 13/4 13/4 080808 4 41/4 2 $\frac{3}{4}$ 2 $\frac{3}{4}$ 15/8 15/8 21/2 21/2 13/4 13/4 090604 11/4 11/2 21/4 21/4 13/8 13/4 2 2 100604 2 2 11/2 11/2 3/4 21/4 21/2 13/8 23/4 13/4 21/2 100804 2 2 11/2 $\frac{3}{4}$ 21/4 21/2 15/8 23/4 21/2 21/2 13/4 4 100806 3 11/2 2 2/4 33/8 21/2 15/8 23/4 13/4 21/2 13/4 100808 5 $\frac{3}{4}$ 41/2 21/2 101006 3 11/2 4 3 11/2 23/8 21/2 21/2 23/4 23/4 21/2 21/2 101008 3 11/2 5 3 $4^{1}/_{4}$ 21/2 21/2 23/4 23/4 21/2 21/2 11/2 1 120604 2 11/2 21/4 $\frac{3}{4}$ 3 13/4 120606 21/2 3/4 33/8 3 11/2 11/2 13/8 13/4 23/4 120806 21/2 33/8 21/2 23/4 13/4 120808 21/2 5 41/4 21/2 11/4 121204 11/2 2 2 11/2 21/4 3 3 23/4 23/4 121206 4 3 21/2 21/2 3 4 23/4 23/4 11/2 11/2 5 3 121208 21/2 4 21/2 11/2 41/4 3 4 23/4 23/4 11/2 4 121212 23/4 21/2 11/2 21/2 11/2 3 3 23/4 121218 3 6 4 21/2 6 4 21/2 23/4 23/4 11/2 11/2 140806 2 33/8 31/2 4 3 2 3/4 15/8 41/2 21/2 31/2 13/4 141206 2 4 4 21/2 11/2 33/8 31/2 41/2 3 3 31/2 23/4 141410 2 6 5 6 4 3 4 31/2 31/2 41/2 41/2 31/2 31/2 3 2 160606 21/2 33/8 31/2 11/ 3/, 11/2 53/0 2 160806 4 3/4 2 33/8 25/8 31/2 21/2 21/2 11/2 2 $5^{3}/_{8}$ 4 4 161206 31/2 4 11/2 33/8 53/8 21/2 21/2 3 3 4 4 4 4 5 161208 5³/₈ 5 5 31/2 21/2 4 21/2 11/2 41/4 4 3 4 3 4 4 161606 4 31/2 21/2 4 4 31/2 21/2 33/8 4 4 $5^{3}/_{8}$ 53/8 4 180806 21/2 4 11/4 33/8 2 41/2 2 21/2 3/, 41/ 6 25/8 4 4 180808 5 2 2⁷/₈ 41/1 2 5 5 4 21/2 21/2 11/4 3/4 41/2 6 25/8 $4^{1}/_{2}$ 23/4 181206 21/2 33/8 4 4 4 4 21/2 11/2 61/2 51/2 37/8 4 181208 5 21/2 5 4 21/2 11/2 41/4 $4^{1}/_{2}$ 3 $5^{1}/_{2}$ 4 4 23/4 181210 6 21/2 6 4 21/2 11/2 5 41/4 3 $5^{1/2}$ 4 4 23/4

^{*}Spacing dimensions apply to drilled and tapped holes. Space has been provided for a locknut and bushing when drilled and tapped holes are required. †Top and bottom are the longer dimensions on enclosures which are not square.

W Series Junction Boxes

Ordering Information

DRILLED AND TAPPED CONDUIT OPENINGS OR SLIP HOLES Table 4 (continued)

Maximum Size and Number of Drilled and Tapped Conduit

				Ope	nings										
		Top a	nd Botto	m†			Sides				Sp	oacing Di	mension	s*	
W Series															
Cat. #	1	2	3	4	1	2	3	4	S	t	u	V	W	Х	У
181212	6	5	4	21/2	6	4	21/2	11/2	5	41/2	3	51/2	4	4	21/4
181218	6	5	4	21/2	6	4	21/2	1 1/2	5	$4^{1}/_{2}$	3	51/2	4	4	23/4
181806	4	4	4	21/2	5	5	4	21/2	33/8	$4^{1}/_{2}$	4	6	53/8	41/2	4
181808	5	5	4	21/2	5	5	31/2	21/2	41/4	$4^{1}/_{2}$	4	6	53/8	41/2	4
181812	6	6	4	21/2	6	6	4	21/2	5	41/2	41/2	6	6	41/2	41/2
240606	4	4	4	4	4	11/2	3/4	_	33/8	63/4	1³/ ₈	8	13/4	6	_
240808	5	5	5	4	5	21/2	11/4	3/4	41/4	63/4	41/2	8	25/8	6	2
241010	6	6	5	4	6	3	11/2	1	5	61/2	21/2	7	23/4	5 ³ / ₄	21/2
241208	5	5	5	4	5	4	21/2	11/2	41/4	61/2	27/8	7	37/8	53/4	23/4
241210	6	6	5	4	6	4	21/2	11/2	5	61/2	3	7	4	53/4	23/4
241212	6	6	5	4	6	4	21/2	11/2	5	61/2	27/8	7	37/8	53/4	23/4
241808	5	5	5	4	5	5	4	21/2	41/4	61/2	41/2	7	53/4	53/4	4
241810	6	6	5	4	6	6	4	21/2	5	61/2	41/2	7	53/4	53/4	4
241812	6	6	5	4	6	5 5	4	21/2	5	61/2	41/2	7	5 ³ / ₄	5 ³ / ₄	4
242408	5	5	5	4	5	5	5	4	41/4	61/2	61/2	7	71/2	53/4	53/4
242412	6	6	5	4	6	6	5	4	5	61/2	61/2	7	71/2	5³/ ₄	53/4
242424	6	6	5	4	6	6	5	4	61/2	63/4	61/2	7	71/2	5 ³ / ₄	53/4
302412	6	6	6	5	6	6	5	4	5	71/2	63/4	10	8	71/2	6
361212	6	6	6	6	6	4	21/2	1 1/2	5	83/4	3	12	4	9	23/4
361812	6	6	6	6	6	5	4	21/2	5	83/4	41/2	12	41/2	9	4
362412	6	6	6	6	6	6	5	4	5	83/4	63/4	12	8	9	6
363612	6	6	6	6	6	6	6	6	5	83/4	83/4	12	12	9	9

^{*}Spacing dimensions apply to drilled and tapped holes. Space has been provided for a locknut and bushing when drilled and tapped holes are required. †Top and bottom are the longer dimensions on enclosures which are not square.

Commercial construction screw cover junction box with patented clamps

Applications:

Eaton's Crouse-Hinds HomeRunner™ Junction Boxes are designed specifically for commercial construction applications to provide a spacious, flexible junction box for terminating home runs and other electrical wiring. Its patented clamping design and flexibility make it the most convenient, labor savings junction box available.

Features:

- Designed and approved for use with AC, MC, MCI-A, NM or EMT
- Patented clamping feature eliminates the need for field punching/drilling of KOs and installation of connectors
- Standard surface or flush cover options eliminates the need for custom covers
- · Multiple mounting holes and knockouts for installation flexibility
- Optional stud bracket for direct mounting to steel or wood studs
- Kick stand far side support available with HR080803
- Available in 2 sizes to match customer requirements and preferences

Call-out Features:

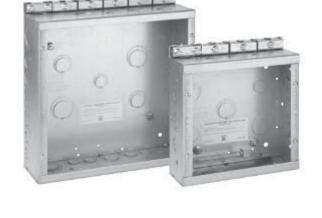
- Patented clamping system provides maximum flexibility and maximum grip. Third party certified for use with AC, MC, MCI-A or non-metallic sheathed cable
- Welded steel construction provides strong, dependable service and large cubic capacity for ease of wiring
 Combination eccentric knockouts on sides for quick and easy
- Combination eccentric knockouts on sides for quick and easy access, combination ko's in the back of the box are ideal for applications where joist spacing is too tight for side entry
- 4. Terminal cup washer and flanged nut quick, easy service ground termination or attachment of grounding bus-bar
- 5. 2 cover options square for surface mounted applications or oversized for flush mount applications
- Extensive mounting flexibility pre-drilled holes in side and back for direct mounting or for mounting bracket (purchased separately)
- Far-side support snaps on quickly and easily and is perforated which allows for adjustment in dual thickness, fire-rated walls, shipped standard with 8" x 8" x 3" models

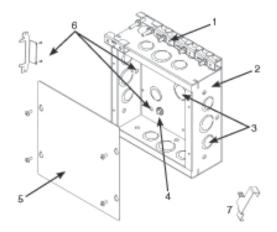
Certifications and Compliances:

- For U.S. and Canada: CSA File #248782
- Certified to UL50 and UL514B and CSA C22.2, No. 18.3-04 and No. 40-M1989

Standard Materials:

- Enclosure and cover pre-galvanized steel
- Hardware zinc plated steel





Cat.#	Description	Dimensions	Knockouts	Wire Fill	Built-In Clamps	Cubic Volume	Unit Qty.	Wt. Per 100
HR080803	8" x 8" Box	8"H x 8"W x 3"D	(10) ½" and ¾" eccentric, (7) ¾" and 1" eccentric	(7) 14 AWG, (6) 12 AWG, (5) 10 AWG	(1) 10 / 3 to 10 / 12, (5) 14 / 2 to 10 / 3	177	5	400
HR121204	12" x 12" Box	12"H x 12"W x 4"D	(9) 1/2" (8) 1/2" - 3/4" eccentric (6) 3/4" - 1" eccentric (6) 1" - 11/4" eccentric	, ,	(1) 10 / 3 to 10 / 12, (10) 14 / 2 to 10 / 3	544	5	800
HRC0808S	Surface Mount Cover for HomeRunner Box	8"H x 8"W x .06"D					5	100
HRC0808F	Flush Mount Cover for HomeRunner Box	9.38"H x 9.38"W x .06"D					5	160
HRC1212S	Surface Mount Cover for HomeRunner Box	12"H x 12"W x .065"D					5	270
HRC1212F	Flush Mount Cover for HomeRunner Box	13.38"H x 13.38"W x .065"D					5	230
HRSB1	Stud Bracket for HomeRunner Box						20	35

Reliability you can count on for the most corrosive applications

Partnering with Eaton's Crouse-Hinds and our dedicated team of industry experts can help you succeed. Since 1897, we have led the development of safer, more reliable ways to power the most challenging harsh and hazardous areas. Eaton's Crouse-Hinds has long been established as a leader in enclosures for hazardous, industrial, and commercial applications. Enclosures are engineered and manufactured to perform through the most corrosive conditions needed by OEMs, MRO, wastewater treatment facilities, and chemical plants. These exceptionally durable, corrosion-resistant enclosures can withstand extreme abuse and exposure to chemicals, water, and extreme conditions.

Enclosure knowledge and experience with:

- Products that deliver superior performance
- Low maintenance choices, like durable non-metallic enclosures with features designed to provide optimum protection in the harshest environments
- Dedicated and expert sales support to help select products that perform reliably and cost effectively



Eaton's Crouse-Hinds is helping more industrial facility owners, operators, and engineers succeed each day – safely and cost effectively. It's part of our commitment to focus on industries where our experience, expertise and products can make the biggest impact.



Quick Selection Guide

.,				
CATALOG SERIES	PRODUCT GROUP & SIZE	MATERIALS	NUMBER OF SIZES	ENVIRONMENAL RATING
	Small Line Series 3" x 3" to 17" x 3"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	11	UL/cUL CSA Std C22.2 NEMA Types 1, 3R, 4X, 6P, 12
	Pushbutton Series 6" x 3" to 1 3.5" x 11.5" Inline and multi-hole configurations, 30mm and 22mm configurations offered	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	21	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 6P, 12
	Junction Box Series 6" x 4" to 20" x 16"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	76	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 6P, 12
	Raised Cover Series 6" x 4" to 20" x 16"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	33	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 6P, 12
	Advantage Series 6" x 6" to 20" x 16"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	36	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 3S, 4X, 12, 13

Fiberglass Enclosures

Quick Selection Guide

PRODUCT GROUP & SIZE	MATERIALS	NUMBER OF SIZES	ENVIRONMENAL RATING
Wall Mount Series 3R & 4X Series 16" x 10" to 48" x 36" NEMA 3R or 4X	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	28	UL/cUL CSA Std C22.2 (3R) NEMA Types 1, 3R (4X) NEMA Types 1, 3, 3R, 4X, 12
Wall Mount Series Large Series 48" x 36" to 72" x 49" Large & Free-standing enclosures with double door options	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	7	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 3R, 4X, 12
Disconnect & Circuit Breaking Series 16" x 10" to 36" x 30" Industrial Control System applications	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	6	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 3R, 4X, 12
Xtra Deep Series 6" x 4" to 20" x 16" Extra Deep Cover	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	11	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 12
	Wall Mount Series 3R & 4X Series 16" x 10" to 48" x 36" NEMA 3R or 4X Wall Mount Series Large Series 48" x 36" to 72" x 49" Large & Free-standing enclosures with double door options Disconnect & Circuit Breaking Series 16" x 10" to 36" x 30" Industrial Control System applications Xtra Deep Series 6" x 4" to 20" x 16" Extra Deep	Wall Mount Series 3R & 4X Series 16" x 10" to 48" x 36" NEMA 3R or 4X Wall Mount Series Large Series 48" x 36" to 72" x 49" Large & Free-standing enclosures with double door options Disconnect & Circuit Breaking Series 16" x 10" to 36" x 30" Industrial Control System applications Xtra Deep Series 6" x 4" to 20" x 16" Extra Deep Extra Deep Extra Deep Wall Mount Series - Poured polyurethane seamless gasket - Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester - Poured polyurethane seamless gasket - Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester - Poured polyurethane seamless gasket - Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester - Poured polyurethane seamless gasket - Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester - Poured polyurethane seamless gasket - Stainless steel used on all external hardware	Wall Mount Series 3R & 4X Series 16" x 10" to 48" x 36" NEMA 3R or 4X Wall Mount Series Large Series 48" x 36" to 72" x 49" Large & Free-standing enclosures with double door options Disconnect & Circuit Breaking Series 16" x 10" to 304 stainless steel used on all external hardware Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Free-standing enclosures with double door options Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel used on all external hardware Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel used on all external hardware



Eaton's Crouse-Hinds has a full line of Krydon material enclosures. These solid, one-piece construction enclosures are made of a proprietary formulation of fiberglass reinforced polyester that has high impact strength, is fire retardant, heat resistant and withstands weathering. Krydon enclosures are:

- Strong and durable while providing longer service life for equipment
 Class I, Division 2, Groups B, C, D rating on many Krydon products
 Are available in an expansive range of product groups
 Are available in hundreds of sizes and options

Fiberglass Enclosures Small Line Series

Eaton's Crouse-Hinds Small Line Series offers a lightweight, compact, versatile solution for applications requiring tight or confined spaces. The Small Line Series houses everything from terminal blocks to small positional control. Available in a choice of two body styles, these enclosures are made of fiberglass reinforced polyester and have a memory retaining polyurethane gasket and stainless steel screws for exceptional corrosion and chemical resistance. The Small Line Series will hold up under the most extreme conditions and provide protection in adverse environments such as water, steam, vapor or chemicals.

Features & Benefits:

- · Lift-off cover design with 4 cover screws
- · Memory retaining continuous polyurethane gasket
- · Captive stainless steel cover screws
- · Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

- UL/cUL 50, Types 1, 3R, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3R, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3R, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



Materials and Finishes:

- Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- · Captive stainless steel screws
- 304 stainless steel used on all external hardware

Options:

 Mounting feet kit available for field installation. Order part number FSJMTGFTKIT

Ordering Information:



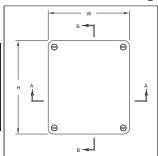
^{*} Flat Cove

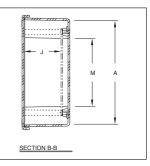
To order, add the suffix to the end of the part number

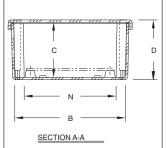
^{**} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS)

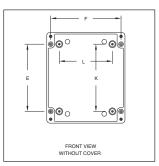
Fiberglass Enclosures Small Line Series

Dimensional Drawings



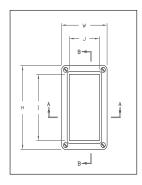


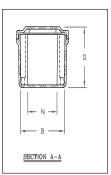


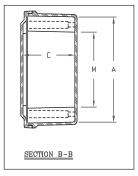


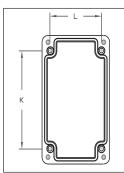
FSJS Configuration Dimensions In Inches (mm)

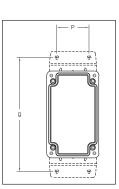
Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	K	L	M	N	Weight
FSJS070603	7.63 x 6.63 x 3.19 (194 x 168 x 81)	6.90 x 5.90 x 2.88 (175 x 150 x 73)	5.37 x 5.63 (137 x 143)	2.48 (63)	5.3 (137)	4.25 (108)	4.52 (115)	4.9 (124)	3 lbs.
FSJS090603	9.87 x 6.63 x 3.19 (251 x 168 x 81)	9.15 x 5.90 x 2.88 (232 x 150 x 73)	7.62 x 5.63 (194 x 143)	2.48 (63)	7.62 (194)	4.25 (108)	6.77 (172)	4.9 (124)	3 lbs.











FSJBS Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	I	J	K	L	M	N	Weight
FSJBS030302	3.72 x 3.63 x 2.95 (95 x 92 x 75)	3.13 x 3.03 x 2.70 (79 x 77 x 69)	0 (0)	0 (0)	2.31 (59)	2.75 (70)	1.59 (40)	2.03 (52)	1 lb.
FSJBS050302	5.97 x 3.63 x 3.14 (152 x 92 x 80)	5.38 x 3.03 x 2.87 (137 x 77 x 73)	4.72 (120)	2.38 (61)	4.56 (116)	2.75 (70)	3.84 (98)	2.03 (52)	1 lb.
FSJBS060404	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.50 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	2 lbs.
FSJBS080302	8.41 x 3.63 x 3.14 (214 x 92 x 80)	7.82 x 3.03 x 2.87 (199 x 77 x 73)	7.16 (182)	2.38 (60)	7.00 (178)	2.75 (70)	6.28 (160)	2.03 (52)	2 lbs.
FSJBS080404	8.88 x 3.81 x 3.89 (225 x 97 x 99)	8.26 x 3.19 x 3.63 (210 x 81 x 92)	7.56 (192)	2.50 (64)	7.13 (181)	2.94 (75)	6.38 (162)	2.19 (56)	2 lbs.
FSJBS090302	9.35 x 3.63 x 3.14 (237 x 92 x 80)	8.75 x 3.03 x 2.87 (222 x 77 x 73)	8.10 (206)	2.38 (60)	7.94 (202)	2.75 (70)	7.22 (183)	2.03 (52)	2 lbs.
FSJBS110404	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.50 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	2 lbs.
FSJBS140302	13.78 x 3.63 x 3.14 (350 x 92 x 80)	13.19 x 3.03 x 2.87 (335 x 77 x 73)	12.53 (318)	2.38 (60)	12.37 (314)	2.75 (70)	11.66 (296)	2.03 (52)	2 lbs.
FSJBS170302	17.35 x 3.63 x 3.14 (441 x 92 x 80)	16.75 x 3.03 x 2.87 (426 x 77 x 73)	16.10 (409)	2.38 (60)	15.94 (405)	2.75 (70)	15.22 (387)	2.03 (52)	3 lbs.

Fiberglass Enclosures Pushbutton Series

Eaton's Crouse-Hinds Pushbutton Series offers a solution for applications requiring an enclosure with multiple pre-drilled openings for pushbuttons available in 30mm and 22mm configurations. The notched keyhole design, and the ability to order up to 25 holes, makes this versatile series a perfect match for your general purpose electrical and control station applications. Available in a choice of two body designs, these enclosures are made of fiberglass reinforced polyester and have a memory retaining polyurethane gasket and stainless steel screws for exceptional corrosion and chemical resistance. The Pushbutton Series will hold up under the most extreme conditions and provide protection in adverse conditions such as water, steam, vapor or chemicals.

Features & Benefits:

- Lift-off cover design with 4 cover screws
- · Memory retaining continuous polyurethane gasket
- · Captive stainless steel cover screws
- · Full metal grounding strap
- Notched key hole design
- · Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



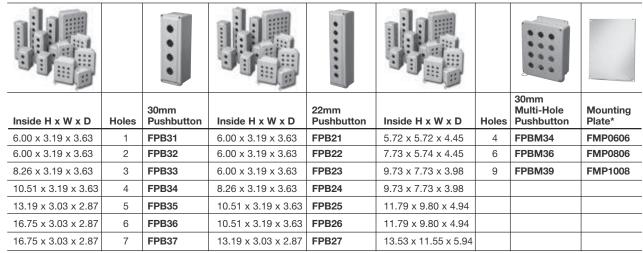
Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- · Poured polyurethane seamless gasket provides water-tight dust-tight environmental seal
- Captive stainless steel screws
- · 304 stainless steel used on all external hardware
- Stainless steel beaded cover retention chain on the FPBM series

Options:

 Mounting feet kit available for field installation. Order part number **FSJMTGFTKIT**

Ordering Information:



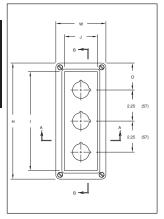
^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

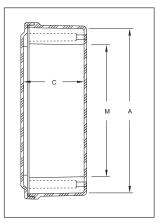
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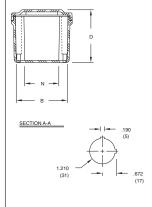
Fiberglass Enclosures Pushbutton Series

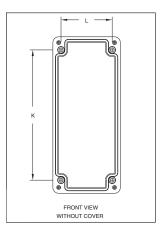
Dimensional Drawings

30mm

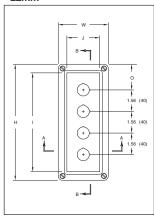


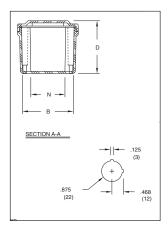


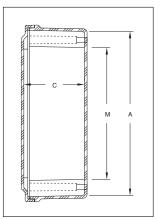


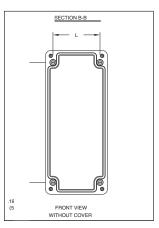


22mm

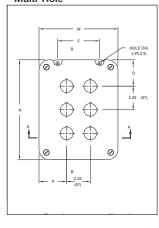


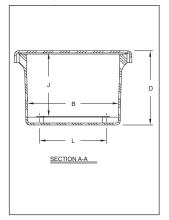


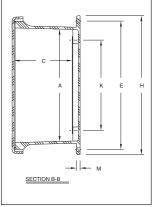


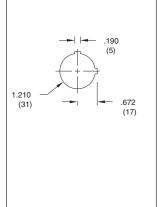


Multi-Hole









Fiberglass Enclosures Pushbutton Series

30mm Pushbutton Series - Configuration Dimensions In Inches (mm)										
Catalog Number	Overall H x W x D	Inside A x B x C	I	J	K	L	М	N	0	Weight
FPB31	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	3.31 (84)	2 lbs.
FPB32	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	2.19 (56)	2 lbs.
FPB33	8.88 x 3.81 x 3.89 (225 x 97 x 99)	8.26 x 3.19 x 3.63 (210 x 81 x 92)	7.56 (192)	2.5 (64)	7.13 (181)	2.94 (75)	6.38 (162)	2.19 (56)	2.19 (56)	2 lbs.
FPB34	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.5 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	2.19 (56)	2 lbs.
FPB35	13.78 x 3.63 x 3.14 (350 x 92 x 80)	13.19 x 3.03 x 2.87 (335 x 77 x 73)	12.53 (318)	2.38 (60)	12.37 (314)	2.75 (70)	11.66 (296)	2.03 (52)	2.39 (61)	2 lbs.
FPB36	17.35 x 3.63 x 3.14 (441 x 92 x 80)	16.75 x 3.03 x 2.87 (426 x 77 x 73)	16.1 (409)	2.38 (60)	15.94 (405)	2.75 (70)	15.22 (387)	2.03 (52)	3.05 (77)	3 lbs.
FPB37	17.35 x 3.63 x 3.14 (441 x 92 x 80)	16.75 x 3.03 x 2.87 (426 x 77 x 73)	16.1 (409)	2.38 (60)	15.94 (405)	2.75 (70)	15.22 (387)	2.03 (52)	1.92 (49)	3 lbs.

22mm Pushbutton Series - Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	I	J	K	L	M	N	0	Weight
FPB21	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	3.31 (84)	2 lbs.
FPB22	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	2.53 (64)	2 lbs.
FPB23	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	1.75 (44)	2 lbs.
FPB24	8.88 x 3.81 x 3.89 (225 x 97 x 99)	8.26 x 3.19 x 3.63 (210 x 81 x 92)	7.56 (192)	2.5 (64)	7.13 (181)	2.94 (75)	6.38 (162)	2.19 (56)	2.09 (53)	2 lbs.
FPB25	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.5 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	2.44 (62)	2 lbs.
FPB26	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.5 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	1.66 (42)	3 lbs.
FPB27	13.78 x 3.63 x 3.14 (350 x 92 x 80)	13.19 x 3.03 x 2.87 (335 x 77 x 73)	12.53 (318)	2.38 (60)	12.37 (314)	2.75 (70)	11.66 (296)	2.03 (52)	2.20 (56)	3 lbs.

Multi-Hole Pushbutton Series - Configuration Dimensions In Inches (mm)

<u> </u>												
Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	К	L	М	N	0	Р	Hole Dia.	Weight
FPBM34	7.50 x 7.50 x 4.75 (191 x 191 x 121)	5.72 x 5.72 x 4.45 (145 x 145 x 113)	6.75 x 4 171 x 101)	4 (101)	4.25 (108)	4.25 (108)	0.25 (6)	7.52 (191)	2.64 (67)	2.64 (67)	0.31 (8)	2.75 lbs.
FPBM36	9.62 x 7.50 x 4.74 (244 x 191 x 121)	7.73 x 5.74 x 4.45 (196 x 146 x 113)	8.88 x 4 (225 x 101)	4 (101)	6.25 (159)	4.25 (108)	0.25 (6)	9.5 (242)	2.64 (67)	2.51 (64)	0.31 (8)	3.5 lbs.
FPBM39	11.62 x 9.41 x 4.25 (295 x 239 x 108)	9.73 x 7.73 x 3.98 (247 x 196 x 101)	10.75 x 6 (273 x 152)	3.5 (89)	8.25 (209)	6.25 (159)	0.25 (6)	11.35 (288)	3.43 (87)	2.45 (62)	0.31 (8)	5 lbs.

Eaton's Crouse-Hinds Junction Box Series offers an extensive selection to the industrial application requiring a vast number of configurations and sizes. The Junction Box Series is available in 12 different sizes, each offering a multitude of durable cover options with features such as stainless steel hinges, padlock covers and windows. These enclosures are made of fiberglass reinforced polyester and have a poured polyurethane seamless gasket that provides a watertight and dust-tight environmental seal for exceptional corrosion and chemical resistance. The durable Junction Box Series will hold up under the most extreme applications and provide protection and reliability in the most adverse conditions.

Features & Benefits:

- · Memory retaining continuous polyurethane gasket
- · Captive stainless steel cover screws
- · Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- · Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no
- Stainless steel retention chain on screw cover series
- · Full-length stainless steel hinges on the hinge cover series

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Window flammability UL94V-0
- · Non-flame propagating



Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- Captive stainless steel screws
- 304 stainless steel used on all external hardware
- Molded in mounting flange
- Panel mounting capability for fixed rear panel
- · Bosses utilize threaded brass inserts accepting 10-32 screws

Ordering Information



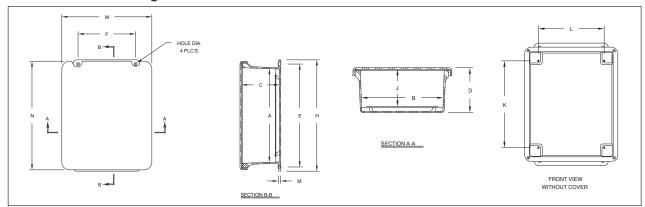
^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS)

To order, add the suffix to the end of the part number

[†] Available with the deep cover option, please add a "D" to the part number. For example, FJDHS100804 ‡ Not available with a 6P rating

Fiberglass Enclosures Junction Box Series

Dimensional Drawings



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Window Area	Mounting E x F	J	К	L	М	N	Hole Dia.	Weight
FJS060404	II X W X D	AXBXO	Alea	LAI		K		141	IN .	Dia.	weight
FJHS060404 FJHP060404 FJHPW060404	7.50 x 5.43 x 4.75 (191 x 138 x 121)	5.84 x 3.85 x 4.45 (148 x 98 x 113)	4.25 x 2.25 (108 x 57)	6.75 x 2 (171 x 51)	4 (101)	4.25 (108)	2.25 (57)	0.25 (6)	7.39 (188)	0.31 (8)	2.5 lbs.
FJS060604 FJHS060604 FJHP060604 FJHPW060604	7.50 x 7.50 x 4.75 (191 x 191 x 121)	5.72 x 5.72 x 4.45 (145 x 145 x 113)	4.25 x 4.25 (108 x 108)	6.75 x 4 (171 x 101)	4 (101)	4.25 (108)	4.25 (108)	0.25 (6)	7.52 (191)	0.31 (8)	2.75 lbs.
FJS080604 FJHS080604 FJHP080604 FJHPW080604	9.62 x 7.50 x 4.74 (244 x 191 x 121)	7.73 x 5.74 x 4.45 (196 x 146 x 113)	6.25 x 4.25 (159 x 108)	8.88 x 4 (225 x 101)	4 (101)	6.25 (159)	4.25 (108)	0.25 (6)	9.5 (242)	0.31 (8)	3.5 lbs.
FJS080804 FJHS080804 FJHP080804 FJHPW080804	9.56 x 9.38 x 4.89 (243 x 238 x 124)	7.73 x 7.73 x 4.64 (196 x 196 x 118)	8.75 x 6.00 (222 x 152)	8.75 x 6.00 (222 x 152)	4.06 (103)	6.25 (159)	6.25 (159)	0.25 (6)	9.37 (238)	0.31 (8)	1.71 lbs.
FJS100804 FJHS100804 FJHP100804 FJHPW100804	11.62 x 9.41 x 4.25 (295 x 239 x 108)	9.73 x 7.73 x 3.98 (247 x 196 x 101)	8.25 x 6.25 (210 x 159)	10.75 x 6 (273 x 152)	3.5 (89)	8.25 (209)	6.25 (159)	0.25 (6)	11.35 (288)	0.31 (8)	5 lbs.
FJDS100804* FJDHS100804* FJDHP100804* FJDHPW100804*	11.62 x 9.37 x 5.06 (295 x 238 x 129)	9.73 x 7.73 x 4.83 (247 x 196 x 123)	8.25 x 6.25 (210 x 159)	10.75 x 6 (273 x 152)	4.37 (111)	8.25 (209)	6.25 (159)	0.25 (6)	11.37 (289)	0.31 (8)	5 lbs.
FJS121005 FJHS121005 FJHP121005 FJHPW121005	13.56 x 11.43 x 5.21 (344 x 291 x 132)	11.79 x 9.80 x 4.94 (299 x 249 x 125)	10.25 x 8.25 (260 x 210)	12.75 x 8 (324 x 203)	4.5 (114)	10.25 (260)	8.25 (209)	0.25 (6)	13.41 (341)	0.31 (8)	6.5 lbs.

^{*}Deep cover - center of cover raised $^{9/_{4}\text{\tiny{II}}}.$

Fiberglass Enclosures Junction Box Series

Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Window Area	Mounting E x F	J	К	L	М	N	Hole Dia.	Weight
FJS121206 FJHS121206 FJHP121206	13.56 x 13.38 x 6.36 (344 x 340 x 161)	11.70 x 11.70 x 6.11 (297 x 297 x 155)	12.75 x 10.00 (324 x 254)	12.75 x 10.00 (324 x 254)	5.53 (140)	10.25 (260)	10.25 (260)	0.25 (6)	13.38 (340)	0.31 (8)	3.2 lbs.
FJS140707 FJHS140707 FJHP140707 FJHPW140707	15.87 x 8.75 x 6.81 (403 x 222 x 173)	14.00 x 7.00 x 6.56 (356 x 178 x 167)	12.75 x 5.75 (324 x 146)	15 x 5 (381 x 127)	6.12 (156)	12.25 (311)	5.25 (133)	0.25 (6)	15.75 (400)	0.31 (8)	6.25 lbs.
FJS141206 FJHS141206 FJHP141206 FJHPW141206	15.50 x 13.50 x 6.25 (394 x 343 x 159)	13.53 x 11.55 x 5.94 (344 x 293 x 151)	12.25 x 10.25 (311 x 260)	14.62 x 10 (371 x 254)	5.37 (137)	12.25 (311)	10.25 (260)	0.25 (6)	15.47 (393)	0.31 (8)	8.5 lbs.
FJS161406 FJHS161406 FJHP161406 FJHPW161406	17.53 x 15.46 x 6.23 (445 x 393 x 158)	15.63 x 13.60 x 5.94 (397 x 345 x 151)	14.25 x 12.25 (362 x 311)	16.75 x 12 (425 x 305)	5.36 (136)	14.25 (362)	12.25 (311)	0.25 (6)	17.45 (443)	0.31 (8)	11.5 lbs.
FJS181608 FJHS181608 FJHP181608 FJHPW181608	19.62 x 17.61 x 8.82 (498 x 447 x 224)	17.69 x 15.69 x 8.45 (449 x 399 x 215)	16.25 x 14.25 (413 x 362)	18.88 x 12 (479 x 305)	7.99 (203)	16.25 (413)	14.25 (362)	0.25 (6)	19.61 (498)	0.31 (8)	19.25 lbs.
FJS201608 FJHS201608 FJHP201608 FJHPW201608	22.00 x 17.68 x 8.83 (559 x 449 x 224)	19.72 x 15.72 x 8.45 (501 x 399 x 215)	18.25 x 14.25 (464 x 362)	21.25 x 10.00 (540 x 254)	8 (203)	18.25 (464)	14.25 (362)	0.25 (6)	21.68 (551)	0.31 (8)	20.25 lbs.

Fiberglass Enclosures Raised Cover Series

Eaton's Crouse-Hinds Raised Cover Series offers a solution for applications requiring an enclosure with a "raised" or "deeper" cover. The deeper cover is suitable for panel mounting and for use as an operator interface in industrial equipment control stations when required. The deeper cover allows every cubic inch of valuable internal enclosure space to be used. These enclosures are made of fiberglass reinforced polyester and have a poured polyurethane seamless gasket that provides a water-tight and dust-tight environmental seal for exceptional corrosion and chemical resistance. The Raised Cover Series will hold up under the most extreme applications and provide protection and reliability in highend electronics applications, harsh corrosive environments, and industrial applications both indoors and out.

Features & Benefits:

- · Memory retaining continuous polyurethane gasket
- · Molded in mounting flange
- · Captive stainless steel cover screws
- · Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- · Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



Materials and Finishes:

- Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- Captive stainless steel screws
- 304 stainless steel used on all external hardware
- Molded in mounting flange
- Panel mounting capability for fixed rear panel
- Bosses utilize threaded brass inserts accepting 10-32 screws

Ordering Information



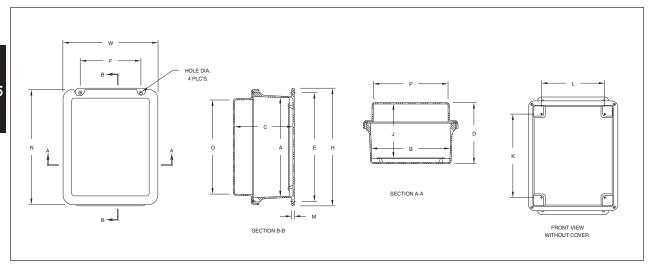
^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS)

To order, add the suffix to the end of the part number



Fiberglass Enclosures Raised Cover Series

DIMENSIONAL DRAWINGS



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	к	L	М	N	o	Р	Hole Dia.	Weight
FRCJS060406 FRCJHS060406 FRCJHP060406	7.50 x 5.47 x 6.22 (191 x 139 x 158)	5.84 x 3.85 x 5.95 (148 x 98 x 151)	5.84 x 3.85 x 5.95 (148 x 98 x 151)	5.49 (140)	4.25 (108)	2.25 (57)	0.25 (6)	7.45 (189)	5.31 (135)	3.34 (85)	0.31 (8)	2.5 lbs.
FRCJS060606 FRCJHS060606 FRCJHP060606	7.50 x 7.52 x 6.22 (191 x 191 x 158)	5.72 x 5.72 x 5.95 (145 x 145 x 151)	6.75 x 4 (171 x 101)	5.49 (140)	4.25 (108)	4.25 (108)	0.25 (6)	7.52 (191)	5.34 (136)	5.31 (135)	0.31 (8)	2.75 lbs.
FRCJS080606 FRCJHS080606 FRCJHP080606	9.62 x 7.46 x 6.22 (244 x 190 x158)	7.73 x 5.74 x 5.95 (196 x 146 x 151)	8.88 x 4 (225 x 101)	5.49 (140)	6.25 (159)	4.25 (108)	0.25 (6)	9.36 (238)	7.25 (185)	5.28 (134)	0.31 (8)	3.5 lbs.
FRCJS080805 FRCJHS080805 FRCJHP080805	9.56 x 9.38 x 6.26 (243 x 238 x 159)	7.73 x 7.73 x 6.01 (196 x 196 x 153)	8.75 x 6.00 (222 x 152)	5.43 (138)	6.25 (159)	6.25 (159)	0.25 (6)	9.37 (238)	7.17 (182)	7.17 (182)	0.31 (8)	4 lbs.
FRCJS100806 FRCJHS100806 FRCJHP100806	11.62 x 9.37 x 6.61 (295 x 238 x 168)	9.73 x 7.73 x 6.36 (247 x 196 x 162)	10.75 x 6 (273 x 152)	5.91 (150)	8.25 (209)	6.25 (159)	0.25 (6)	11.38 (289)	9.3 (236)	7.38 (188)	0.31 (8)	5 lbs.
FRCJS121006 FRCJHS121006 FRCJHP121006	13.56 x 11.43 x 6.61 (344 x 291 x 168)	11.79 x 9.80 x 6.32 (299 x 249 x 161)	12.75 x 8 (324 x 203)	5.87 (149)	10.25 (260)	8.25 (209)	0.25 (6)	13.41 (341)	11.2 (284)	9.23 (234)	0.31 (8)	6.5 lbs.
FRCJHP121208	13.56 x 13.38 x 7.73 (344 x 340 x 196)	11.70 x 11.70 x 7.48 (297 x 297 x 190)	12.75 x 10.00 (324 x 254)	6.90 (175)	10.25 (260)	10.25 (260)	0.25 (6)	13.38 (340)	11.17 (284)	11.17 (284)	0.31 (8)	7.4 lbs.
FRCJS141208 FRCJHS141208 FRCJHP141208	15.50 x 13.38 x 7.69 (394 x 340 x 195)	13.53 x 11.55 x 7.45 (344 x 293 x 189)	14.62 x 10 (371 x 254)	6.87 (174)	12.25 (311)	10.25 (260)	0.25 (6)	15.42 (392)	13.2 (335)	11.16 (284)	0.31 (8)	8.5 lbs.
FRCJS161408 FRCJHS161408 FRCJHP161408	17.53 x 15.43 x 7.71 (445 x 392 x 196)	15.63 x 13.60 x 7.45 (397 x 345 x 189)	16.75 x 12 (425 x 305)	6.87 (174)	14.25 (362)	12.25 (311)	0.25 (6)	17.43 (443)	15.2 (386)	13.24 (336)	0.31 (8)	11.5 lbs.
FRCJS181610 FRCJHS181610 FRCJHP181610	19.62 x 17.48 x 10.62 (498 x 444 x 270)	17.69 x 15.69 x 10.31 (449 x 399 x 262)	18.88 x 12 (479 x 305)	9.86 (250)	16.25 (413)	14.25 (362)	0.25 (6)	19.49 (495)	17.25 (438)	15.25 (387)	0.31 (8)	19.25 lbs.
FRCJS201610 FRCJHS201610 FRCJHP201610	22.00 x 17.56 x 10.64 (559 x 446 x 270)	19.72 x 15.72 x 10.33 (501 x 399 x 262)	21.25 x 10.00 (540 x 254)	9.87 (251)	18.25 (464)	14.25 (362)	0.25 (6)	21.56 (548)	19.31 (490)	15.39 (391)	0.31 (8)	20.25 lbs.

Fiberglass Enclosures Xtra Deep Series

Eaton's Crouse-Hinds Xtra Deep Series offers a solution for applications requiring an extra deep enclosure. The deep, durable enclosure has nearly equal capacity in both the cover and the base, giving you ample room for your cover or mounting plate components. The fiberglass reinforced polyester enclosure with flange mount base, stainless steel hardware and poured polyurethane seamless gasket provides exceptional corrosion and chemical resistance in a watertight and dust-tight environmental seal. The Xtra Deep Series will hold up under the most extreme applications and provide protection and reliability in high-end electronics applications, harsh corrosive environments, and industrial applications both indoors and out.

Features & Benefits:

- Memory retaining continuous polyurethane gasket
- Integral mounting flange
- · Molded in panel mounting inserts
- · Chemical resistant fiberglass reinforced polyester
- · Non-corrosive design
- Full length stainless steel hinge
- Water-tight, dust-tight
- · Non-conductive, impact resistant, UV resistant
- · Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no

Certification & Compliances:

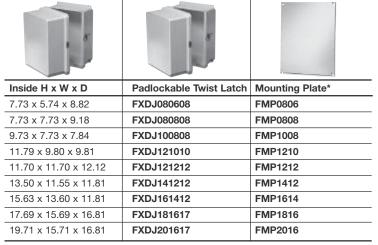
- UL/cUL 50, Types 1, 3, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 12
- NEMA Standard 250 Types 1, 3, 4X, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- 304 stainless steel used on all external hardware
- · Molded in mounting flange
- · Panel mounting capability for fixed rear panel
- · Bosses utilize threaded brass inserts accepting 10-32 screws

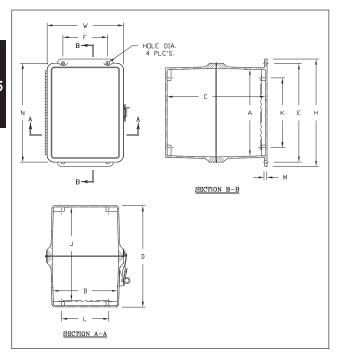
Ordering Information



^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

Fiberglass Enclosures Xtra Deep Series

Dimensional Drawings



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	К	L	М	N	Hole Dia.	Weight
FXDJ080608	9.62 x 6.84 x 9.07 (244 x 174 x 230)	7.73 x 5.74 x 8.82 (196 x 146 x 224)	8.88 x 4.00 (225 x 101)	8.37 (213)	6.25 (159)	4.25 (108)	0.25 (6)	8.87 (225)	0.31 (8)	4 lbs.
FXDJ080808	9.56 x 8.84 x 9.43 (243 x 224 x 239)	7.73 x 7.73 x 9.18 (196 x 196 x 233)	8.75 x 6.00 (222 x 152)	8.60 (219)	6.25 (159)	6.25 (159)	0.25 (6)	8.84 (224)	0.31 (8)	5 lbs.
FXDJ100808	11.62 x 8.81 x 8.09 (295 x 224 x 206)	9.73 x 7.73 x 7.84 (247 x 196 x 199)	10.75 x 6.00 (273 x 152)	7.39 (188)	8.25 (209)	6.25 (159)	0.25 (6)	10.86 (276)	0.31 (8)	6 lbs.
FXDJ121010	13.56 x 10.83 x 10.06 (344 x 275 x 256)	11.79 x 9.80 x 9.81 (299 x 249 x 249)	12.75 x 8.00 (324 x 203)	9.36 (238)	10.25 (260)	8.25 (209)	0.25 (6)	12.95 (329)	0.31 (8)	8 lbs.
FXDJ121212	13.56 x 12.84 x 12.37 (344 x 326 x 314)	11.70 x 11.70 x 12.12 (297 x 297 x 308)	12.75 x 10.00 (324 x 254)	11.54 (293)	10.25 (260)	10.25 (260)	0.25 (6)	12.84 (326)	0.31 (8)	9 lbs.
FXDJ141212	15.50 x 12.83 x 12.06 (394 x 326 x 306)	13.50 x 11.55 x11.81 (343 x 293 x 300)	14.62 x 10.00 (371 x 254)	11.23 (285)	12.25 (311)	10.25 (260)	0.25 (6)	14.88 (378)	0.31 (8)	12 lbs.
FXDJ161412	17.53 x 14.88 x 12.05 (445 x 378 x 306)	17.53 x 14.88 x 12.05 (445 x 378 x 306)	16.75 x 12.00 (425 x 305)	11.23 (285)	14.25 (362)	12.25 (311)	0.25 (6)	16.95 (431)	0.31 (8)	14 lbs.
FXDJ181617	19.62 x 16.91 x 17.19 (498 x 429 x 436)	17.69 x 15.69 x 16.81 (449 x 398 x 427)	18.88 x 12.00 (479 x 305)	16.36 (415)	16.25 (413)	14.25 (362)	0.25 (6)	18.91 (480)	0.31 (8)	22 lbs.
FXDJ201617	22.00 x 17.00 x 17.21 (558 x 431 x 437)	19.71 x 15.71 x 16.81 (501 x 399 x 427)	21.25 x 10.00 (540 x 254)	16.36 (415)	18.25 (464)	14.25 (362)	14.25 (362)	21.00 (533)	0.31 (8)	25 lbs.

Fiberglass Enclosures Advantage Series

Eaton's Crouse-Hinds Advantage Series is our most extensive selection of durable industrial non-metallic boxes. Available in a wide range of options, the Advantage Series is available in over 36 various configurations with options such as stainless steel hinges or stainless steel pull latches each with or without clear covers. These enclosures are made of fiberglass reinforced polyester and have a poured polyurethane seamless gasket that provides a water-tight and dust-tight environmental seal for exceptional corrosion and chemical resistance. The resilient Advantage Series will provide high impact resistance in the most extreme conditions and provide protection and reliability in the most adverse applications.

Features & Benefits:

- · Memory retaining continuous polyurethane gasket
- No penetrating hardware
- · Chemical resistant fiberglass reinforced polyester
- Non-corrosive design
- Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 3S, 4X, 12, 13
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3S, 4X, 12, 13
- NEMA Standard 250 Types 1, 3, 3S, 4X, 12, 13
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating
- IP66



Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dust-tight environmental seal
- 304 stainless steel used on all external hardware
- Panel mounting capability for fixed rear panel
- Bosses utilize threaded brass inserts accepting 10-32 screws

Options:

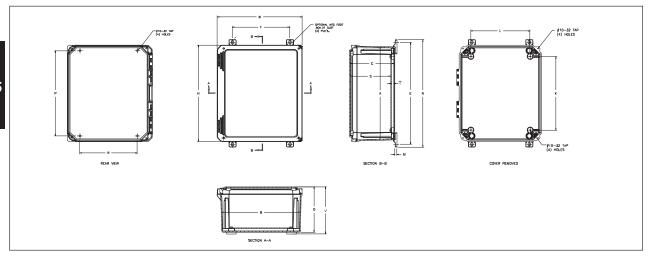
 Mounting feet kit available for field installation. Order part number FAMTGFTKIT

Ordering Information



Fiberglass Enclosures Advantage Series

Dimensional Drawings



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting P x R	к	L	s	т	Opt. Mtg. Feet E x F	N	J	М	Weight
FAHS060604 FAHP060604 FAHSCC060604 FAHPCC060604	7.41H (188.3) 7.79W (197.9) 4.31D (109.5)	6.77 x 6.77 x 4.06 (171.9 x 171.9 x 103.2)	5.93 x 4.00 (150.6 x 101.6)	4.25 (108)	4.25 (108)	3.60 (91.5)	0.38 (9.6)	8.24 x 4.00 (209.2 x 101.6)	9.02 (229.0)	4.56 (115.8)	0.25 (6.35)	2.5 lbs.
FAHS080604 FAHP080604 FAHSCC080604 FAHPCC080604	9.41H (239.1) 7.79W (197.9) 4.31D (109.5)	8.77 x 6.77 x 4.06 (222.7 x 171.9 x 103.2)	7.91 x 4.00 (200.9 x 101.6)	6.25 (159)	4.25 (108)	3.60 (91.5)	0.38 (9.6)	10.21 x 4.00 (259.3 x 101.6)	10.98 (279.0)	4.56 (115.8)	0.25 (6.35)	3.0 lbs.
FAHS080804 FAHP080804 FAHSCC080804 FAHPCC080804	9.39H (238.5) 9.76W (248.0) 4.31D (109.5)	8.74 x 8.74 x 4.06 (222.1 x 222.1 x 103.2)	7.91 x 6.00 (200.9 x 152.4)	6.25 (159)	6.25 (159)	3.60 (91.5)	0.38 (9.6)	10.21 x 6.00 (259.3 x 152.4)	10.98 (279.0)	4.56 (6.35)	0.25 (115.8)	3.5 lbs.
FAHS100806 FAHP100806 FAHSCC100806 FAHPCC100806	11.42H (290.1) 9.79W (248.6) 6.31D (160.3)	10.73 x 8.73 x 6.06 (272.5 x 221.7 x 153.9)	9.89 x 6.00 (251.2 x 152.4)	8.25 (210)	6.25 (159)	5.60 (142.3)	0.38 (9.6)	12.19 x 6.00 (309.6 x 152.4)	12.96 (329.3)	6.56 (166.6)	0.25 (6.35)	4.5 lbs.
FAHS121006 FAHP121006 FAHSCC121006 FAHPCC121006	13.45H (341.6) 11.83W (300.5) 6.31D (160.3)	12.69 x 10.69 x 6.06 (322.3 x 271.5 x 153.9)	11.88 x 8.00 (301.7 x 203.2)	10.25 (260)	8.25 (210)	5.60 (142.3)	0.38 (9.6)	14.18 x 8.00 (360.2 x 203.2)	14.95 (379.7)	6.56 (166.6)	0.25 (6.35)	6.0 lbs.
FAHS141206 FAHP141206 FAHSCC141206 FAHPCC141206	15.49H (393.4) 13.86W (352.0) 6.34D (161.0)	14.72 x 12.72 x 6.06 (373.9 x 323.1 x 153.9)	13.91 x 10.00 (353.3 x 254.0)	12.25 (311)	10.25 (260)	5.60 (142.3)	0.38 (9.6)	16.21 x 10.00 (411.7 x 254.0)	16.98 (431.4)	6.59 (167.4)	0.25 (6.35)	8.0 lbs.
FAHS141208 FAHP141208 FAHSCC141208 FAHPCC141208	15.49H (393.4) 13.86W (352.0) 8.34D (211.8)	14.66 x 12.66 x 8.06 (372.4 x 321.6 x 204.7)	13.88 x 10.00 (352.5 x 254.0)	12.25 (311)	10.25 (260)	7.60 (193.2)	0.38 (9.6)	16.19 x 10.00 (411.2 x 254.0)	16.96 (430.9)	8.59 (218.2)	0.25 (6.35)	9.5 lbs.
FAHS161408 FAHP161408 FAHSCC161408 FAHPCC161408	17.58H (446.6) 15.96W (405.4) 8.34D (211.8)	16.69 x 14.69 x 8.06 (424.0 x 373.1 x 204.7)	15.96 x 12.00 (405.4 x 304.8)	14.25 (362)	12.25 (311)	7.60 (193.2)	0.38 (9.6)	18.26 x 12.00 (464.0 x 304.8)	19.04 (483.5)	8.59 (218.2)	0.25 (6.35)	11.5 lbs.
FAHS181610 FAHP181610	19.77H (502.2) 18.15W (461.0) 10.34D (262.6)	18.63 x 16.63 x 10.06 (473.2 x 422.4 x 255.5)	17.94 x 14.00 (455.6 x 355.6)	16.25 (413)	14.25 (362)	9.60 (243.9)	0.38 (9.6)	20.24 x 14.00 (514.3 x 355.6)	21.02 (533.8)	10.59 (268.9)	0.25 (6.35)	16.0 lbs.
FAHS201610 FAHP201610	21.79H (553.5) 18.16W (461.2) 10.34D (262.6)	20.63 x 16.63 x 10.06 (524.0 x 422.4 x 255.5)	19.96 x 14.00 (506.9 x 355.6)	18.25 (463)	14.25 (362)	9.59 (243.7)	0.38 (9.6)	22.26 x 14.00 (565.6 x 355.6)	23.04 (585.1)	10.59 (268.9)	0.25 (6.35)	17.5 lbs.

Eaton's Crouse-Hinds Wall Mount and Large Fiberglass

Enclosure Series offers a solution for applications requiring a large enclosure especially suited for indoor or outdoor use and to provide protection against falling dirt, rain, sleet, snow, and windblown dust. The fiberglass reinforced polyester Wall Mount Series is available in NEMA 3R and 4X configurations and the poured polyurethane seamless gasket provides a watertight and dust-tight environmental seal for exceptional corrosion and chemical resistance.

Features & Benefits:

- · Memory retaining continuous polyurethane gasket
- Lightweight
- · Integral mounting feet
- Molded in panel mounting inserts
- · Stainless steel full length continuous hinge
- Built in padlock hasp
- · Chemical resistant fiberglass reinforced polyester
- Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Rain shield protection against incidental water ingress for NEMA 3R enclosures
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

3R Series

- UL/cUL 50, Types 1, 3R
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3R
- NEMA Standard 250 Types 1, 3R
- $\bullet\,$ Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating

4X Series

- UL/cUL 50, Types 1, 3, 3R, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3R, 4X, 12
- NEMA Standard 250 Types 1, 3, 3R, 4X, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating

Large Fiberglass

- UL/cUL 50, Types 1, 3, 3R, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3R, 4X, 12
- NEMA Standard 250 Types 1, 3, 3R, 4X, 12
- IP55 & IP66
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



Materials and Finishes:

- Hot compression molded fiberglass reinforced polyester hand layup FRP
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- 304 stainless steel used on all external hardware
- Bosses utilize threaded brass inserts accepting 10-32 screws

Ordering Information:

Ordering Inform	nation:	1
Inside H x W x D	Stainless Steel Hinged, Latched Down Cover	Mounting Plate*
15.92 x 10.27 x 8.53	F4WMSHL161007	FMPWM1610
19.70 x 16.04 x 13.24	F4WMSHL201612	FMPWM2016
24.00 x 12.87 x 7.33	F4WMSHL241206	FMPWM2412
24.00 x 12.87 x 11.33	F4WMSHL241210	FMPWM2412
24.05 x 20.39 x 9.25	F4WMSHL242008	FMPWM2420
24.05 x 24.39 x 11.25	F4WMSHL242410	FMPWM2424
24.05 x 24.39 x 13.25	F4WMSHL242412	FMPWM2424
29.90 x 20.14 x 7.23	F4WMSHL302006	FMPWM3020
29.90 x 20.14 x 9.23	F4WMSHL302008	FMPWM3020
29.90 x 20.14 x 11.23	F4WMSHL302010	FMPWM3020
29.90 x 20.14 x 13.23	F4WMSHL302012	FMPWM3020
30.46 x 25.47 x 8.12	F4WMSHL302407	FMPWM3024
30.46 x 25.47 x 11.27	F4WMSHL302410	FMPWM3024
30.46 x 25.47 x 13.10	F4WMSHL302412	FMPWM3024
36.31 x 31.69 x 9.36	F4WMSHL363008	FMPWM3630
36.31 x 31.69 x 11.36	F4WMSHL363010	FMPWM3630
36.31 x 31.69 x 13.36	F4WMSHL363012	FMPWM3630
	-	
19.70 x 16.04 x 7.24	F3WMSHL201606	FMPWM2016
24.05 x 24.39 x 11.25	F3WMSHL242410	FMPWM2424
29.90 x 20.14 x 9.23	F3WMSHL302008	FMPWM3020
29.90 x 20.14 x 11.23	F3WMSHL302010	FMPWM3020
30.46 x 25.47 x 11.27	F3WMSHL302410	FMPWM3024
30.46 x 25.47 x 13.10	F3WMSHL302412	FMPWM3024
36.31 x 31.69 x 9.36	F3WMSHL363008	FMPWM3630
36.31 x 31.69 x 11.36	F3WMSHL363010	FMPWM3630
36.31 x 31.69 x 13.36	F3WMSHL363012	FMPWM3630
48.33 x 36.22 x 13.25	F3WMSHL483612	FMPWM4836
48.33 x 32.22 x 17.25	F3WMSHL483616	FMPWM4836
48.33 x 36.22 x 13.25	F4LSHL483612	FMPWM4836
48.33 x 32.22 x 17.25	F4LSHL483616	FMPWM4836
60.62 x 36.13 x 13.44	F4LSHL603612	FMPWM6036
60.62 x 36.13 x 17.44	F4LSHL603616	FMPWM6036
36.12 x 48.12 x 13.00	F4LSHLDD364812	FMPWM3648
72.00 x 25.00 x 25.88	F4LSHLFS722525	FMPWM7225
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^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS). To order, add the suffix to the end of the part number

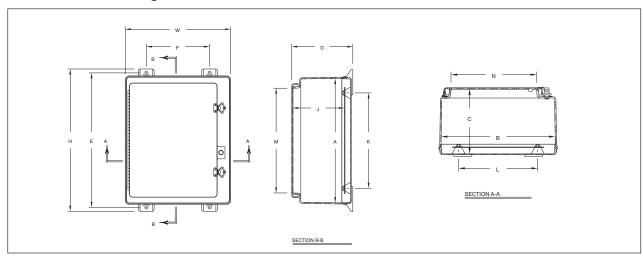
72.00 x 49.00 x 25.88 **F4LSHLFSDD724925**

Number of Latches

Inside Enclosure Dimensions	3R Stainless Steel Hinge	4X Stainless Steel Hinge
161007	2	2
201606	2	2
201612	۷	2
241206	2	2
241210	۷	2
242008	2	4
242410	2	2
242412	2	2
302006		
302008	2	5
302010	۷	3
302012		
302407		
302410	2	5
302412		
363008		
363010	3	5
363012		
483612	3	10
483616	<u> </u>	10

FMPWM7249

Dimensional Drawings

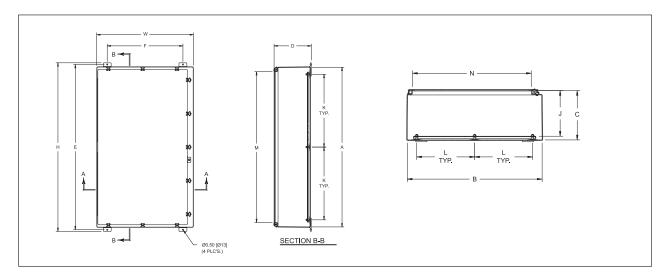


Wall Mount Series - NEMA 4X Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	К	L	Enclosure Opening M x N	Weight
F4WMSHL161007	18.75 x 10.96 x 9.03 (476 x 278 x 229)	15.92 x 10.27 x 8.53 (404 x 261 x 217)	17.50 x 7.00 (444 x 178)	7.8 (198)	12 (305)	7.5 (191)	13.14 x 6.00 (334 x 152)	12 lbs.
F4WMSHL201612	22.75 x 16.87 x 13.77 (578 x 429 x 350)	19.70 x 16.04 x 13.24 (500 x 407 x 336)	21.50 x 10.12 (546 x 257)	12.26 (312)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	24 lbs.
F4WMSHL241206	26.95 x 13.72 x 7.98 (685 x 348 x 203)	24.00 x 12.87 x 7.33 (610 x 327 x 186)	25.75 x 6.25 (654 x 159)			7.25 (184)	21.00 x 8.37 (533 x 213)	21 lbs.
F4WMSHL241210	26.95 x 13.72 x 11.99 (685 x 348 x 304)	24.00 x 12.87 x 11.33 (610 x 327 x 288)			19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	25 lbs.
F4WMSHL242008	27.00 x 21.24 x 9.90 (686 x 539 x 252)	24.05 x 20.39 x 9.25 (611 x 518 x 235)	25.75 x 14.00 (654 x 356)	8.25 (209)	19.25 (489)	15.25 (387)	21.25 x 16.00 (540 x 406)	32 lbs.
F4WMSHL242410	27.00 x 25.24 x 11.90 (686 x 641 x 302)	24.05 x 24.39 x 11.25 (611 x 619 x 286)	25.75 x 17.87 (654 x 454)	10.25 (260)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	42 lbs.
F4WMSHL242412	27.00 x 25.24 x 13.90 (686 x 641 x 353)	24.05 x 24.39 x 13.25 (611 x 619 x 336)	25.75 x 17.87 (654 x 454)	12.25 (311)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	43 lbs.
F4WMSHL302006	32.86 x 20.99 x 7.89 (835 x 533 x 200)	29.90 x 20.14 x 7.23 (760 x 511 x 184)	30.75 x 14.25 (806 x 362)	6.23 (158)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	34 lbs.
F4WMSHL302008	32.86 x 20.99 x 9.89 (835 x 533 x 251)	29.90 x 20.14 x 9.23 (760 x 511 x 234)	31.75 x 14.25 (806 x 362)	8.23 (209)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	36 lbs.
F4WMSHL302010	32.86 x 20.99 x 11.89 (835 x 533 x 302)	29.90 x 20.14 x 11.23 (760 x 511 x 285)	31.75 x 14.25 (806 x 362)	10.23 (260)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	39 lbs.
F4WMSHL302012	29.90 x 20.14 x 13.23 (760 x 511 x 336)	29.90 x 20.14 x 13.23 (760 x 511 x 336)	31.75 x 14.25 (806 x 362)	12.23 (311)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	48 lbs.
F4WMSHL302407	33.41 x 26.32 x 8.81 (849 x 668 x 224)	30.46 x 25.47 x 8.12 (774 x 647 x 206)	32.25 x 18.50 (819 x 470)	7.12 (181)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	45 lbs.
F4WMSHL302410	33.41 x 26.32 x 11.95 (849 x 668 x 304)	30.46 x 25.47 x 11.27 (774 x 647 x 286)	32.25 x 18.50 (819 x 470)	10.27 (261)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	50 lbs.
F4WMSHL302412	33.41 x 26.32 x 13.79 (849 x 668 x 350)	30.46 x 25.47 x 13.10 (774 x 647 x 333)	32.25 x 18.50 (819 x 470)	12.1 (307)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	54 lbs.
F4WMSHL363008	39.31 x 32.50 x 10.05 (999 x 826 x 255)	36.31 x 31.69 x 9.36 (922 x 805 x 238)	38.13 x 23.88 (968 x 606)	8.36 (212)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	75 lbs.
F4WMSHL363010	39.31 x 32.50 x 12.05 (999 x 826 x 306)	36.31 x 31.69 x 11.36 (922 x 805 x 289)	38.13 x 23.88 (968 x 606)	10.36 (263)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	78 lbs.
F4WMSHL363012	39.31 x 32.50 x 14.05 (999 x 826 x 357)	05 36.31 x 31.69 x 13.36 38.13 x 23.8 (922 x 805 x 339) (968 x 606)		12.36 (314)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	81 lbs.

Wall Mount Series - NEMA 3R Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	K	L	Enclosure Opening M x N	Weight
F3WMSHL201606	22.75 x 16.87 x 8.27 (578 x 429 x 210)	19.17 x 16.04 x 7.24 (500 x 407 x 184)	21.50 x 10.12 (546 x 257)	6.26 (159)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	17 lbs.
F3WMSHL242410	27.00 x 25.24 x 11.90 (686 x 641 x 302)	24.05 x 24.39 x 11.25 (611 x 619 x 286)	25.75 x 17.87 (654 x 454)	10.25 (260)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	42 lbs.
F3WMSHL302008	32.86 x 20.99 x 9.89 (835 x 533 x 251)	29.90 x 20.14 x 9.23 (760 x 511 x 234)	31.75 x 14.25 (806 x 362)	8.23 (209)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	36 lbs.
F3WMSHL302010	32.86 x 20.99 x 11.89 (835 x 533 x 302)	29.90 x 20.14 x 11.23 (760 x 511 x 285)	31.75 x 14.25 (806 x 362)	10.23 (260)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	39 lbs.
F3WMSHL302410	33.41 x 26.32 x 11.95 (849 x 668 x 304)	30.46 x 25.47 x 11.27 (774 x 647 x 286)	32.25 x 18.50 (819 x 470)	10.27 (261)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	50 lbs.
F3WMSHL302412	33.41 x 26.32 x 13.79 (849 x 668 x 350)	30.46 x 25.47 x 13.10 (774 x 647 x 333)	32.25 x 18.50 (819 x 470)	12.10 (307)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	54 lbs.
F3WMSHL363008	39.31 x 32.50 x 10.05 (999 x 826 x 255)	36.31 x 31.69 x 9.36 (922 x 805 x 238)	38.13 x 23.88 (968 x 606)	8.36 (212)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	75 lbs.
F3WMSHL363010	39.31 x 32.50 x 12.05 (999 x 826 x 306)	36.31 x 31.69 x 11.36 (922 x 805 x 289)	38.13 x 23.88 (968 x 606)	10.36 (263)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	78 lbs.
F3WMSHL363012	39.31 x 32.50 x 14.05 (999 x 826 x 357)	36.31 x 31.69 x 13.36 (922 x 805 x 339)	38.13 x 23.88 (968 x 606)	12.36 (314)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	81 lbs.



NEMA 3R Dimensional Drawing F3WMSHL483612 and F3WMSHL483616

F3WMSHL483612	51.29 x 36.62 x 13.93 (1303 x 930 x 354)	48.33 x 36.22 x 13.25 (1228 x 920 x 336)	50.12 x 28.50 (1273 x 724)	12.25 (311)		45.25 x 32.00 (1149 x 813)	146 lbs.
F3WMSHL483616	51.29 x 36.62 x 17.93 (1303 x 930 x 456)	48.33 x 32.22 x 17.25 (1228 x 920 x 438)	50.12 x 28.50 (1273 x 724)	16.25 (413)		45.25 x 32.00 (1149 x 813)	164 lbs.

Wall Mount Series / NEMA 3R Chart reflects the Dimensional Drawings from the previous page.

Large Fiberglass Enclosures Series - Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	K	L	Enclosure Opening M x N	Weight
F4LSHL483612*	51.29 x 36.62 x 13.93 (1303 x 930 x 354)	48.33 x 36.22 x 13.25 (1228 x 920 x 336)	50.12 x 28.50 (1273 x 724)	12.25 (311)	21.63 (549)	31.25 (794)	45.25 x 32.00 (1149 x 813)	146 lbs.
F4LSHL483616*	51.29 x 36.62 x 17.93 (1303 x 930 x 456)	48.33 x 32.22 x 17.25 (1228 x 920 x 438)	50.12 x 28.50 (1273 x 724)	16.25 (413)	21.63 (549)	31.25 (794)	45.25 x 32.00 (1149 x 813)	164 lbs.
F4LSHL603612*	64.00 x 36.50 x 14.12 (1627 x 927 x 359)	60.62 x 36.13 x 13.44 (1540 x 918 x 441)	62.75 x 28.75 (1594 x 730)	12.44 (316)	27.63 (702)	31.25 (794)	57.25 x 32.00 (1454 x 813)	177 lbs.
F4LSHL603616*	64.00 x 36.50 x 18.12 (1627 x 927 x 460)	60.62 x 36.13 x 17.44 (1540 x 918 x 443)	62.75 x 28.75 (1594 x 730)	16.44 (418)	27.63 (702)	31.25 (794)	57.25 x 32.00 (1454 x 813)	198 lbs.
F4SHLDD364812	39.50 x 48.50 x 13.62 (1003 x 1232 x 346)	36.12 x 48.12 x 13.00 (917 x 1222 x 330)	38.25 x 40.5 (972 x 1029)	11.94 (303)	14.50 (368)	20.00 (508)	32.00 x 20.75 (813 x 527)	146 lbs.
F4SHLFS722525	72.50 x 25.50 x 26.38 (1841 x 648 x 492)	72.00 x 25.00 x 25.88 (1829 x 635 x 657)		24.88 (632)	15.50 (388)	19.00 (483)	64.75 x 21.00 (1645 x 533)	226 lbs.
F4LSHLFSDD724925	72.50 x 49.50 x 26.38 (18.42 x 1257 x 670)	72.00 x 49.00 x 25.88 (1829 x 1245 x 654)		24.88 (628)	15.50 (394)	20.00 (508)	64.75 x 21.00 (1645 x 533)	350 lbs.

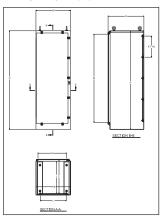
^{*} F4LSHL483612, F4LSHL483616, F4LSHL603612 and F4LSHL603616 reflective of the above chart

Wall Mount & Large Fiberglass Enclosures Series - Dimensional Drawings

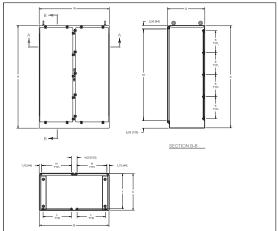
F4LSHDD364812

SECTION B-B CONTROL TOWER DOUBLE DOOR WALLMOUNT

F4LSHLFS722525



F4LSHLFSDD724925



Fiberglass Enclosures Disconnect and Circuit Breaker Series

Eaton's Crouse-Hinds Disconnect and Circuit Breaker Series are used in larger industrial control systems and machine tool control panels where a disconnect is desirable in extreme environmental conditions. This durable NEMA 4X rated enclosure provides protection from falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water, and will be undamaged by the external formation of ice on the enclosure. The poured polyurethane seamless gasket and fiberglass reinforced polyester enclosure provides exceptional corrosion and chemical resistance in adverse conditions.

Features & Benefits:

- Integral mounting feet
- · Stainless steel full length continuous hinge
- · Padlockable in off position
- Lightweight
- · Memory retaining continuous polyurethane gasket
- · Molded in panel mounting inserts
- · Chemical resistant fiberglass reinforced polyester
- Non-corrosive design
- Environmentally sealed Type 4X disconnect handle
- Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 3R, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3R, 4X, 12
- NEMA Standard 250 Types 1, 3, 3R, 4X, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- · Poured polyurethane seamless gasket
- 304 stainless steel used on all external hardware
- · Panel mounting capability for fixed rear panel
- · Bosses utilize threaded brass inserts

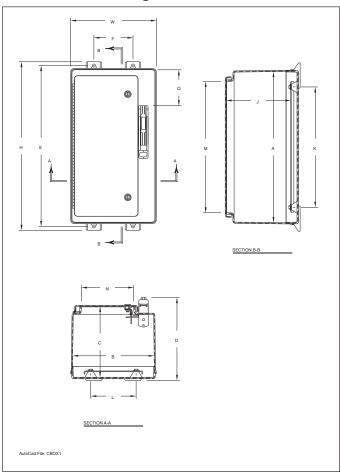
Ordering Information



^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

Fiberglass Enclosures Disconnect and Circuit Breaker Series

Dimensional Drawings



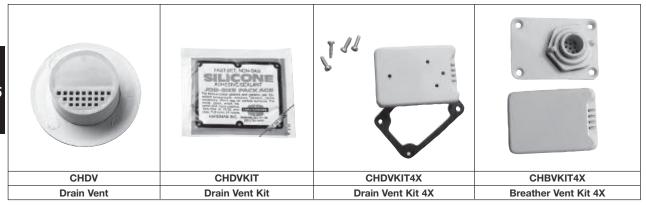
Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	K	L	Opening Enclosure M x N	0	Weight
FDC201608	22.75 x 16.87 x 11.00 (578 x 429 x 279)	19.70 x 16.04 x 9.24 (500 x 407 x 235)	21.50 x 10.12 (546 x 257)	8.26 (210)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	3.50 (89)	23 lbs.
FDC241212	26.95 x 13.72 x 13.25 (685 x 348 x 337)	24.00 x 12.87 x 11.33 (610 x 327 x 288)	25.75 x 6.25 (654 x 159)	10.33 (262)	19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	5.75 (146)	26 lbs.
FDC242412	27.00 x 25.24 x 13.19 (686 x 641 x 335)	24.05 x 24.39 x 11.25 (611 x 619 x 286)	25.75 x 17.87 (654 x 454)	10.25 (260)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	5.75 (146)	40 lbs.
FDC302412	33.41 x 26.32 x 13.19 (849 x 668 x 335)	30.46 x 25.47 x 11.27 (774 x 647 x 286)	32.25 x 18.50 (819 x 470)	10.27 (261)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	12.25 (311)	51 lbs.
FDC363012	39.31 x 32.50 x 13.31 (999 x 826 x 338)	36.31 x 31.69 x 11.36 (922 x 805 x 289)	38.13 x 23.88 (968 x 606)	10.36 (263)	31.25 (794)	25.25 (641)	33.25 x 27.5 (845 x 692)	12.25 (311)	79 lbs.

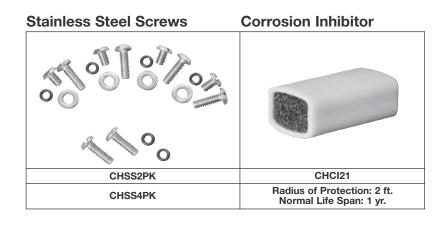
 $^{^* \}text{Disconnect, fuse block, breaker, yoke, switches, or other internal components are not furnished with enclosure.} \\$

Fiberglass Enclosures Accessories

Drain & Breather Vent



Encapsulated Screws Louver Plate Vent Carrying Handle CHENCAP2PK CHENCAP4PK CHLPKIT CHENCAP4PK CHLPKIT CHANDLE



Fiberglass Enclosures Accessories

Fiberglass Hole Plug Assembly



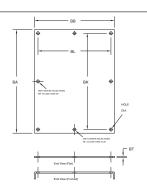
Catalog Number	Fits	Hole Dia. Range
FPLG1KIT	1/2" Dia. Hole 5/8" Dia. Hole 3/4" Dia. Hole	.50"56" .63"69" .75"81"
FPLG2KIT	22mm PB, ½" Conduit ¾" Conduit 30mm PB	.88" - 1.00" 1.06" - 1.12" 1.22" - 1.28"
FPLG3KIT	1" Conduit 11/4" Conduit	1.38" - 1.50" 1.69" - 1.75"
FPLG4KIT	1½" Conduit 2" Conduit	2.00" - 2.12" 2.50" - 2.56"
FPLG5KIT	21/2" Conduit	3.00"
FPLG6KIT	3" Conduit	3.62"
FPLG7KIT	31/2" Conduit	4.12"
FPLG8KIT	4" Conduit	4.62"

Fiberglass Enclosure Mounting Plate Options



Aluminum (SA)
Back Panels
Grade Aluminum
3003 H14 - No Finish

Fiberglass (FG) Back Panels All FG Back Panels UL 94 V-0 Rated



Stainless Steel (SS) Back Panels Stainless Steel Grade 304



Carbon Steel (C)
Back Panels
Carbon Steel
Grade 1010 HRS Painted White Enamel

Mounting Plates for Disconnect & Circuit Breaker Dimensions

Only Available in Carbon Steel (C)	ВА	ВВ	вк	BL	Panel Thickness BT	Panel Type	Hole Dia.	# of Holes	Weight (Carbon Steel) Suffix: C	Fits Typical Enclosure Size
FMPC2016	16.88 (429)	13.38 (340)	15.25 (387)	11.25 (286)	0.13 (2)	Formed	0.31 (8)	4	7.3 lbs.	20 x 16 Disconnect Enclosure
FMPC2412	20.88 (530)	9.38 (238)	19.25 (489)	7.25 (184)	0.13 (2)	Formed	0.50 (13)	4	6.5 lbs.	24 x 12 Disconnect Enclosure
FMPC2424	20.88 (530)	21.38 (543)	19.25 (489)	19.25 (489)	0.13 (2)	Formed	0.50 (13)	4	14 lbs.	24 x 24 Disconnect Enclosure
FMPC3024	26.88 (683)	21.38 (543)	25.25 (641)	19.25 (489)	0.13 (2)	Formed	0.50 (13)	4	19 lbs.	30 x 24 Disconnect Enclosure
FMPC3630	32.88 (835)	27.38 (695)	31.25 (794)	25.25 (641)	0.13 (2)	Formed	0.50 (13)	5	27 lbs.	36 x 30 Disconnect Enclosure

Fiberglass Enclosures Accessories

Mounting Plates for NEMA 3R, NEMA 4X & Large Fiberglass Enclosure Dimensions Weight Weight (Carbon S

Catalog Number	ВА	ВВ	вк	BL	BT (SA)	BT (C)	Panel Type	Hole Dia.	# of Holes	(Aluminum) Suffix: SA	(Carbon Steel) Suffix: C
FMPWM1610SA	13.00	8.50	12.00	7.50	0.090	0.105		0.31			
FMPWM1610C	(330)	(216)	(305)	(191)	(2)	(3)	Flat	(8)	4	1 lb	3.3 lbs
FMPWM2016SA	17.00	13.00	15.25	11.25	0.090	0.105	El-A	0.50	4	0.11	0.7 11
FMPWM2016C	(432)	(330)	(387)	(286)	(2)	(3)	Flat	(13)	4	2 lbs	6.7 lbs
FMPWM2412SA	21.00	9.00	19.25	7.25	0.090	0.105	Flat	0.50	4	4.5 lbs	8.7 lbs
FMPWM2412C	(533)	(229)	(489)	(184)	(2)	(3)	гіаі	(13)	4	4.5 105	0.7 108
FMPWM2420SA	21.00	17.00	19.25	15.25	0.13	0.105	Flat	0.50	4	5 lbs	10.8 lbs
FMPWM2420C	(533)	(432)	(489)	(387)	(3)	(3)	1 Iat	(13)	7	0 103	10.0 103
FMPWM2424SA	21.00	21.00	19.25	19.25	0.13	0.105	Flat	0.50	4	5.5 lbs	13.4 lbs
FMPWM2424C	(533)	(533)	(489)	(489)	(3)	(3)		(13)	·	0.0 .00	
FMPWM3020SA	27.00	17.00	25.25	15.25	0.13	0.105	Flat	0.50	4	5.8 lbs	14 lbs
FMPWM3020C	(686)	(432)	(641)	(387)	(3)	(3)		(13)			
FMPWM3024SA FMPWM3024C	27.00	21.00	25.25	19.25	0.13	0.105	Flat	0.50	4	7 lbs	17 lbs
FMPWM3630SA	(686) 33.00	(533) 27.00	(641) 31.25	(489) 25.25	(3)	(3) 0.105		(13) 0.50			
FMPWM3630C	(838)	(686)	(794)	(641)	(3)	(3)	Flat	(13)	4	11 lbs	27 lbs
FMPWM3636SA	31.00	33.00	29.00	31.00	0.13	0.105		0.50			
FMPWM3636C	(787)	(838)	(737)	(787)	(3)	(3)	Formed	(13)	6	13 lbs	33 lbs
	31.00	22.00	29.00	20.00	0.13	0.105		0.50	_		
FMPWM3648C	(787)	(559)	(737)	(508)	(3)	(3)	Flat	(13)	8	22 lbs	41 lbs
FMPWM4836SA	45.00	33.00	43.25	31.25	0.13	0.105	Cawaa ad	0.50	0	00 11	47 lb -
FMPWM4836C	(1143)	(838)	(1099)	(794)	(3)	(3)	Formed	(13)	8	22 lbs	47 lbs
FMPWM6036SA	57.00	33.00	55.25	31.25	0.13	0.105	Formed	0.50	8	23 lbs	60 lbs
FMPWM6036C	(1448)	(838)	(1403)	(794)	(3)	(3)	Formed	(13)	0	23 108	00 105
FMPWM7225C	64.00	21.00	62.00	19.00	0.13	0.105	Formed	0.50	10	30 lbs	43 lbs
	(1626)	(533)	(1575)	(483)	(3)	(3)	1 Offitied	(13)	10	00 103	TO 103
FMPWM7249C	64.00 (1626)	22.00 (559)	62.00 (1575)	20.00 (508)	0.13 (3)	0.105 (3)	Formed	0.50 (13)	10	38 lbs	91 lbs

Mounting Plates for FSJ, FPB, FJ, FRCJ, FXDJ, FA Series Enclosures

Catalog Number	ВА	ВВ	вк	BL	BT (SA)	BT (FG)	BT (SS)	BT (C)	Panel Type	Hole Dia.	# of Holes	Weight (Aluminum) Suffix: SA	Weight (Fiber- glass) Suffix: FG	Weight (Stain- less) Suffix: SS	Weight (Carbon Steel) Suffix: C
FMP0604SA FMP0604FG FMP0604SS FMP0604C	4.88 (124)	2.88 (73)	4.25 (108)	2.25 (57)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	2 oz.	2 oz.	5 oz.	5 oz.
FMP0808SA FMP0808FG FMP0808SS FMP0808C	6.88 (175)	6.88 (175)	6.25 (159)	6.25 (159)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	5 oz.	5 oz.	15 oz.	15 oz.
FMP0906SA FMP0906FG FMP0906SS FMP0906C	8.25 (210)	4.88 (124)	7.63 (194)	4.25 (108)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	5 oz.	n/a	n/a	14 oz.
FMP1008SA FMP1008FG FMP1008SS FMP1008C	8.88 (225)	6.88 (175)	8.25 (210)	6.25 (159)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	8 oz.	8 oz.	19 oz.	21 oz.
FMP1210SA FMP1210FG FMP1210SS FMP1210C	10.88 (276)	8.88 (225)	10.25 (260)	8.25 (210)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	12 oz.	14 oz.	30 oz.	33 oz.
FMP1212SA FMP1212FG FMP1212SS FMP1212C	10.88 (276)	10.88 (276)	10.25 (260)	10.25 (260)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	16 oz.	18 oz.	37 oz.	38 oz.

Fiberglass Enclosures Accessories

Mounting Plates for FSJ, FPB, FJ, FRCJ, FXDJ, FA Series Enclosures

Catalog					вт	вт	вт	вт	Panel	Hole	# of	Weight (Aluminum)	Weight (Fiber- glass) Suffix:	Weight (Stain- less) Suffix:	Weight (Carbon Steel)
	BA	ВВ	BK	BL	(SA)	(FG)	(SS)	(C)	Туре	Dia.	Holes	Suffix: SA	FG	SS	Suffix: C
FMP0606SA					<u> </u>	, ,	<u> </u>								
1 1111 00001 01	4.88	4.88 (124)	4.25 (108)	4.25 (108)				0.075	Flat	0.25	4	3 oz.	3 oz.	8 oz.	8 oz.
FMP0606SS ((124)	(124)	(100)	(100)	(2)	(3)	(2)	(2)		(6)					
FMP0706SA															
FMP0706FG	6	4.88	5.38		0.080			0.075	Flat	0.25	4	4 oz.	n/a	n/a	10 oz.
FMP0706SS ((152)	(124)	(137)	(108)	(2)	(3)	(2)	(2)		(6)					
FMP0806SA															
	6.88 (175)	4.88 (124)	6.25 (159)	4.25 (108)				0.075	Flat	0.25	4	4 oz.	4 oz.	12 oz.	12 oz.
FMP0806S	(175)	(124)	(159)	(100)	(2)	(3)	(2)	(2)		(6)					
FMP1407SA															
1 1011 01			12.25 (311)	5.25 (133)		0.125			Flat	0.25 (6)	4	14 oz.	14 oz.	32 oz.	34 oz.
FMP1407SS (321)	(149)	(311)	(133)	(2)	(3)	(2)	(2)		(6)					
FMP1412SA															
		10.88 (276)	12.25 (311)	10.25 (260)	(2)	0.125	(2)	(2)	Flat	0.25 (6)	4	18 oz.	20 oz.	45 oz.	48 oz.
FMP1412C	(321)	(210)	(011)	(200)	(2)	(0)	(2)	(2)		(0)					
FMP1614SA															
		12.88 (327)	14.25 (362)	12.25	0.080	(3)	0.060	0.075	Flat	0.25 (6)	4	24 oz.	23 oz.	60 oz.	66 oz.
FMP1614C	370)	(021)	(002)	(011)	(2)	(0)	(2)	(2)		(0)					
FMP1816SA															
1 1011 10101 0		14.88 (378)	16.25 (413)	14.25 (362)	(2)	0.125	0.060	0.075	Flat	0.25 (6)	4	31 oz.	32 oz.	88 oz.	87 oz.
FMP1816SS (4	(429)	(370)	(413)	(302)	(4)	(3)	(2)	(2)		(0)					
FMP2016SA															
		14.88 (378)	18.25 (463)	14.25 (362)	0.080	0.125	0.060	0.075	Flat	0.25 (6)	4	36 oz.	34 oz.	98 oz.	97 oz.
FMP2016C	(419)	(370)	(403)	(302)	(4)	(3)	(2)	(2)		(0)					

Cover Panel Dimensions

Catalog Number	Α	В	С	D	Panel Thk.	Panel Type	Hole Dia.	# of Holes
FACP0606SA	5.64 (143)	5.64 (143)	5.02 (127)	5.02 (127)	0.080 (2)	Flat	0.25 (6)	4
FACP0806SA	7.68 (195)	5.64 (143)	7.05 (179)	5.02 (127)	0.080 (2)	Flat	0.25 (6)	4
FACP0808SA	7.68 (195)	7.68 (195)	7.05 (179)	7.05 (179)	0.080 (2)	Flat	0.25 (6)	4
FACP1008SA	9.71 (247)	7.71 (196)	9.08 (231)	7.08 (180)	0.080 (2)	Flat	0.25 (6)	4
FACP1210SA	11.74 (298)	9.74 (247)	11.12 (282)	9.12 (232)	0.080 (2)	Flat	0.25 (6)	4
FACP1412SA	13.78 (350)	11.78 (299)	13.15 (334)	11.15 (283)	0.080 (2)	Flat	0.25 (6)	4
FACP1614SA	15.81 (402)	13.81 (351)	15.18 (386)	13.18 (334)	0.080 (2)	Flat	0.25 (6)	4
FACP1816SA	17.94 (456)	15.94 (405)	17.31 (440)	15.31 (389)	0.080 (2)	Flat	0.25 (6)	4
FACP2016SA	19.76 (502)	15.76 (400)	19.13 (486)	15.13 (384)	0.080 (2)	Flat	0.25 (6)	4

A C

Note: Cover panel kit includes cover panel and mounting hardware.

Fiberglass Enclosures Custom Built Solutions for Fast Delivery

Custom Modification Offering

Please consult the factory for a quotation on the following custom modifications that we are pleased to offer to help meet the needs of our customers:

- · Custom molded colors
- · Gasketed windows for the FJ, FRC and the Wall Mount Series
- Custom sizes
- Special hole patterns for drilling and tapping configurations
- Dead front and sub panels
- Silk screening capabilities
- Terminal kits and DIN rails available

Custom Built Lighting & Power Panelboards

Motor control, power distribution products and custom control panels designed and built to our customers' unique needs and delivered when they are required.

Overview:

Fiberglass panelboards rated for outdoor NEMA 3R and 4X environments.

Ratings:

120/208V 3 Phase, 4 Wire

 QOB° circuit breakers, single or two-pole 120/240 VAC; three-pole 240 VAC

Trip ratings:

10 to 70 amps, single-pole

10 to 125 amps, two-pole

10 to 100 amps, three-pole

480Y/277V 3 Phase, 4 Wire

 EDB° circuit breakers, single or two-pole 277 VAC; three-pole 480Y/277 VAC

Trip ratings:

15 to 70 amps, single-pole

15 to 125 amps, two-pole

15 to 125 amps, three-pole

Certifications:

- NEMA 1, 3, 3R, 4X and 12
- UL Standard: 67
- CSA Standard: C22.2



Gasketed Window FJ, FRC & Wall Mount Series



Fiberglass Enclosures Custom Built Solutions for Fast Delivery

Custom Built Heavy Duty Disconnects (Circuit Breaker, Fusible and Non-Fusible)

Applications:

Fiberglass Heavy Duty Disconnects are for use in disconnecting motor, lighting and other circuits.

Certifications:

- NEMA/EEMAC: 1, 3, 3R, 4X and 12
- UL Standard: 508
- CSA Standard: C22.2

Electrical Ratings Ranges:

- 3-pole, 60Hz, 600 VAC
- Starters NEMA sizes 0, 1, 2
- Breakers 15 800 Amp Rating
- Switches 30, 60, 100, 200 Amp



Overview:

The Pushbutton Series offers an enclosure solution where multiple pre-drilled openings for 30mm pushbuttons are required. Enclosures are available in sizes ranging from 6" x 3" to 13.5" x 11.5" with notched keyhole design and the ability to order up to 25 holes, making this solution a perfect choice for your control station applications.

Certifications and Compliances:

- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL Standard: 508
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12

Electrical Ratings Ranges:

- Pushbutton stations and selector switches heavy duty 600 VAC maximum
- Pilot lights, selector switches, push buttons 120 to 600 VAC; 24 VAC/DC





For more information on Fiberglass Enclosures or for Custom Built Solutions email: fiberglassenclosures@cooperindustries.com

Solar Combiner Solutions

cETLus 1741 Listed (combiners and disconnects) cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1 NEMA 4X (fiberglass and stainless steel) NEMA 4 (powder coated steel) NEMA 3R (painted steel)

Leading the Way in Solar Technology

Eaton's Crouse-Hinds solar combiner boxes and recombiner boxes for the grid-tied solar market integrate a comprehensive line of electrical products with expert support, industry insights, and local availability to improve safety and productivity in the most demanding industrial, commercial, and residential environments worldwide.

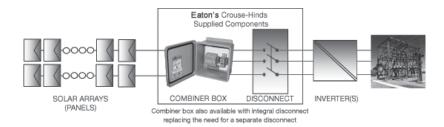
Solar Background Information

A grid-tied solar array may be one panel or many in series, and may range from a single 12 volt panel to high voltage multi-panel arrays for grid-tied systems. Grid-tied systems can go as high as 1000 VDC, while battery systems are typically 12, 24, or 48V.

Higher voltage systems (over 48V) have different NEC code requirements than those for low voltage battery systems, and the two types are NOT interchangeable.

Eaton's Crouse-Hinds Solar Combiners are designed for higher voltage circuits used in grid-tied applications. All meet NEC requirements, are made in accordance with UL 1741 standards, and are protected by Eaton's Bussmann DC fuses specifically designed for the protection and isolation of photovoltaic strings.

Typical Solar Grid System Diagram (CCBF04 Setup Shown)



Eaton's Crouse-Hinds Solar Protection for Fiberglass Enclosures

Eaton's Crouse-Hinds NEMA 4X solar combiner boxes are shipped with fiberglass enclosures. These enclosures contain a solar protection formula that provides the enclosure the strength and durability to provide long, dependable service even in the most demanding environmental conditions. They retain gloss and color even when exposed to harsh UV light and offer superior resistance to chemicals and are fire retardant.

A special UV absorber is added into this solar protection formula and works to absorb UV energy and release it without damaging the fiberglass enclosure, thus providing increased protection of the polyester material and increased resistance to the damaging effects of UV radiation. For additional information on Eaton's Crouse-Hinds Solar Protection, choose Fiberglass Enclosures from: http://www.crouse-hinds.com.

How to Size a Solar Combiner*:

1. Combiner Inputs:

a. Eaton's Crouse-Hinds provides a "Max. Short Circuit Current Rating per String" (lsc) for use as a direct comparison between the published lsc of the PV module. De-rating requirements per Article 690 of the NEC are applied and should be used to make a direct comparison with the PV module lsc ratings (i.e. CCBF12 has an lsc rating of 13.2A. PV modules with lsc ratings at or below 13.2A would be acceptable). For additional information, consult the electrical ratings table at the end of this section.

2. Ratings

a. Voltage: (600 VDC / 1000 VDC systems) – Eaton's Crouse-Hinds provides the total system voltage ratings to be used in comparison with the sum of the maximum number of modules in series per string. Consult NEC, ANSI, and local codes when designing a system.

b. Current: Customer provided max. array current per string multiplied by number of combiner input circuits must be less than or equal to the max. current found in the electrical ratings table at the end of this section.

3. Hardware Sizing:

a. Integral Disconnect Switch Sizing: To determine the rating of the integral disconnect, simply multiply the number of input circuits by the max. current per string (as indicated above), and then round to the next (higher) disconnect size. In NO case can the maximum current exceed the amperage rating. Disconnect switches are rated for 100% continuous duty. Example: A 12 string combiner box with max. current of 12A per string x 12 strings = 144A, which equals the minimum rating for a switch of 250A.

'The information above is provided for reference and information only. All statements, technical information, and recommendations contained herein are based on information and tests we believe to be reliable. The accuracy or completeness thereof are not guaranteed. In accordance with Eaton's Crouse-Hinds' Terms and Conditions of Sale, and since conditions of use are outside our control, the purchaser should determine the suitability of the product for his/her intended use and assumes all risk and liability whatsoever in connection therewith.



Solar Combiner Boxes

cETLus 1741 Listed cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1 NEMA 4X (fiberglass and stainless steel) NEMA 4 (powder coated steel) NEMA 3R (painted steel)

Applications:

Eaton's Crouse-Hinds Solar Combiner Solutions are designed and built to minimize system costs by providing maximum flexibility. Solar Combiner Solutions offer a range of 1 to 48* input circuits, with standard durable non-metallic (NEMA 4X) enclosures, engineered and manufactured to perform in the harshest environmental conditions. ETL Listed to UL 1741 standards*, providing peace of mind and plenty of wiring room for ease of installation.

Features:

- Rated for 600 VDC or 1000 VDC continuous duty
- Touch-Safe fuse holders
- Lexan shield covers all live components
- 90°C output terminals
- · Configured for positive, negative grounded arrays, and bipolar arrays (to 1000 VDC combined voltage)**
- Busbar design

Standard Materials and Finishes:

Fiberglass Enclosure:

- · Hot compression molded fiberglass-reinforced thermoset
- Non-conductive, impact-resistant, UV resistant, flame retardant
- · Self extinguishing, non-halogenated material
- · Poured polyurethane seamless gasket provides watertight, dusttight environmental seal
- · Stainless steel used on all external hardware

Certifications and Compliances:

- cETLus 1741 Listed*
- cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1
- NEMA 4X (fiberglass and stainless steel)
- NEMA 4 (powder coated steel)
- NEMA 3R (painted steel)







Options:

- Fuses (shipped uninstalled)
- Surge protection
- NEMA 4X stainless steel
- NEMA 4 powder coated steel
- NEMA 3R painted steel‡
- Solar cable whips (pre-assembled and installed)
- Compression output lugs
- · Factory installed breather drain and desiccant
- Bipolar construction (to 1000 VDC combined voltage)
- · Smart combiners available (DC string monitoring)
- · Factory drilled entrance holes
- · Factory installed conduit fittings/cable glands
- Dual output lugs
- Lockable enclosures
- · Integral power supply, terminal blocks
- · Custom options available consult factory

CATALOG NUMBERING SYSTEM

Use the table below to build a catalog number for a combiner configuration that matches your specific project requirement.

BASE SOLAR COMBINER		WITH OPTIONAL W/OPTIONAL FACTORY SUPPLIED FUSES SURGE PROTECTION		DC Monitoring	VOLTAGE
CCBF	<u>12</u>	<u>F15</u>	<u>SP</u>	<u>DCM</u>	
Enclosure Type	Number of Input Circuits	Fuse Amperage**	Surge Protection	DC Monitoring	Voltage
CCBF (Fiberglass N4X) CCBS (Painted Steel N3R) CCBSS (Stainless Steel N4X) CCB4S (Powder Coated Steel N4)	01 (1 input circuit) 02 (2 input circuit) 03 (3 input circuit) 04 (4 input circuit) 05 (5 input circuit) 06 (6 input circuit) (Offered up to 48 circuits*)	F08 (8A fuse) F10 (10A fuse) F12 (12A fuse) F15 (15A fuse) (Offered up to 30A) BLANK (Fuses not provided by factory) • Eaton's Bussmann fuses recommended - PVM fuses for 600 VDC combiner boxes - PV fuses for 1000 VDC combiner boxes	SP (Surge Protection) • 30kA/1600 VDC Interrupting Rating or 30kA/1000 VDC • IP20 finger-safe construction • Small size takes up minimal space in enclosure (only 2 inches wide) BLANK (No surge protection)	DCM Pre-installed DC current monitoring unit BLANK (No DC current monitoring)	1000V (1000V) BLANK (600V)

*Combiners with 37-48 input circuits are not third party certified, but are constructed to UL 1741 standards.

**Negative fused configurations available for positive grounded arrays. Replace F15 with NF15 in the catalog number. \$\pm\$Suitable for vertical mounting applications only.

Solar Combiner Boxes with Integral DC Disconnect Switches

cETLus 1741 Listed cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1 NEMA 4X (fiberglass and stainless steel) NEMA 4 (powder coated steel) NEMA 3R (painted steel)

Application:

Eaton's Crouse-Hinds Solar Combiners with Integral DC Disconnect Switches provide all the strong and durable features of our standard Solar Combiner and are available with 1-48 input circuits*, save material costs, installation time, and labor by joining the combiner box and disconnect within one enclosure and eliminating the need for a disconnect switch in a separate enclosure. ETL Listed to UL 1741 standards*, providing peace of mind and plenty of wiring room for ease of installation.

Features:

- Rated for 600 VDC or 1000 VDC continuous duty
- Integral Disconnects available in 100A, 250A, 400A, and 600A†
- Touch-Safe fuse holders
- Lexan shield covers all live components
- 90°C output terminals
- Configured for positive and negative grounded arrays**

Standard Materials and Finishes:

Fiberglass Enclosure:

- Hot compression molded fiberglass-reinforced thermoset polyester
- Non-conductive, impact-resistant, UV resistant, flame retardant
- Poured polyurethane seamless gasket provides watertight, dusttight environmental seal
- · Stainless steel used on all external hardware

Integral Disconnect Rating:

To determine the rating of the integral disconnect, simply multiply the number of input circuits by the max. current per string, and then round to the next (higher) disconnect size. In NO case can the maximum current exceed the amperage rating. Disconnect switches are rated for 100% continuous duty. Example: A 12 string combiner box with max. current of 12A per string x 12 strings = 144A, which equals the minimum rating for a switch of 250A.







Certifications and Compliances:

- cETLus 1741 Listed
- cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1
- NEMA 4X (fiberglass and stainless steel)
- NEMA 4 (powder coated steel)
- NEMA 3R (painted steel)

Options:

- Fuses (shipped uninstalled)
- · Surge protection
- NEMA 4X stainless steel
- NEMA 4 powder coated steel
- NEMA 3R painted steel‡
- Solar cable whips (pre-assembled and installed)
- Compression output lugs
- Factory installed breather drain and desiccant
- Bipolar construction (to 1000 VDC combined voltage)
- Smart combiners available (DC string monitoring)
- Factory drilled entrance holes
- Factory installed conduit fittings/cable glands
- Dual output lugs
- · Lockable enclosures
- Integral power supply, terminal blocks
- · Custom options available consult factory

CATALOG NUMBERING SYSTEM

Use the table below to build a catalog number for a combiner configuration that matches your specific project requirement.

BASE SOLAR COMBINER		WITH OPTIONAL Factory supplied fuses	WITH OPTIONAL W/OPTIONAL INTEGRAL DISCONNECT SURGE PROTECTION		DC Monitoring	VOLTAGE
CCBF	<u>12</u>	<u>F15</u>	<u>DS250</u>	<u>SP</u>	<u>DCM</u>	
Enclosure Type	Number of Input Circuits	Fuse Amperage**	Rating for Integral Disconnect	Surge Protection	DC Monitoring	Voltage
CCBF (Fiberglass N4X) CCBS (Painted Steel N3R) CCBSS (Stainless Steel N4X) CCB4S (Powder Coated Steel N4)	01 (1 input circuit) 02 (2 input circuit) 03 (3 input circuit) 04 (4 input circuit) 05 (5 input circuit) 06 (6 input circuit) ((Offered up to 48 circuits*)	F08 (8A fuse) F10 (10A fuse) F12 (12A fuse) F15 (15A fuse) (0ffered up to 30A) BLANK (Fuses not provided by factory) • Eator's Bussmann fuses recommended - PVM fuses for 600 VDC combiner boxes - PV fuses for 1000 VDC combiner boxes	DS (Disconnect Switch for use with 1-48" input circuits) DS100 (100A-Standard on combiners up to 6 circuits) DS250 (250A-Standard on combiners from 6 to 24 circuits) DS400 (400A-Wailable on combiners of 25 circuits and higher) DS600 (600A-Consult Factory) BLANK (No integral disconnect)	SP (Surge Protection) 3 0kA/600 VDC Interrupting Rating gr_30kA/1000 VDC 1P20 finger-safe construction 5 Small size takes up minimal space in enclosure (only 2 inches wide) BLANK (No surge protection)	DCM Pre-installed DC current monitoring unit BLANK (No DC current monitoring)	1000V (1000V) BLANK (600V)

*Combiners with 37-48 input circuits are not third party certified, but are constructed to UL 1741 standards.

**Negative fused configurations available for positive grounded arrays. Replace F15 with NF15 in the catalog number.

†UL98B Listed Disconnect Switch 1000V.

‡Suitable for vertical mounting applications only.

Compact (SL Series) Solar Combiners

Applications:

Eaton's Crouse-Hinds Compact Solar Combiner Boxes are designed and built to provide long, dependable service in a low-profile space-saving design. Compact combiners are third-party listed to UL1741 to provide long, dependable service and peace of mind. They are available from factory stock in either four or six circuits with or without fuses to meet tight job delivery requirements. Engineered, manufactured, and listed NEMA 4X, they can be mounted either vertically or horizontally and are designed to perform in the harshest environmental conditions. They are the ideal compact solution for commercial rooftop installations with tight space and NEMA 4X requirements offering maximum performance in a smaller physical footprint.

Features:

- Available in either 4 or 6 input circuit models to match the most common customer requirements for a compact combiner
- Continuous duty rated at 600 VDC
- NEMA 4X fiberglass 8 x 8 x 6 enclosures with captive stainless steel screws and formed-in-place polyurethane seamless gasket provided as standard
- Third-party certified to UL1741 and CSA Standard C22.2 No. 107.1
- Touch-Safe fuse holders and power distribution blocks for safe operation
- 90°C output terminals
- Configured for positive and negative grounded arrays*
- · Ground blocks included
- External mounting feet included for quick, easy installation
- Rated for continuous operation at 50°C
- 15A max. fuse size
- Eaton's Bussmann UL2579 fast-acting 600 VDC Midget fuses provided as standard with fused models

 $^{*}\text{Negative}$ fused configurations available for positive grounded arrays. Replace F15 with NF15 in the catalog number.

Technical Specifications:

- 600 VDC
- 15A Max. Fuse Size (A)
- 9.6A Max. PV Module Short Circuit Current
- 50°C Ambient
- #14-#8 Input Conductors
- #2 AWG Output Conductors
- Dimensions (in.) 08 x 08 x 06
- NEMA 4X
- Suitable for vertical or horizontal mounting







Certifications and Compliances:

- cETLus 1741 Listed
- CSA Standard C22.2 No. 107.1
- NFMA 4X

Standard Materials and Finishes:

- Hot compression molded fiberglass-reinforced thermoset polyester
- Non-conductive, impact-resistant, UV resistant, flame retardant
- Poured polyurethane seamless gasket provides watertight, dust-tight environmental seal
- Stainless steel used on all external hardware

Ordering Information:

O	Missanda assard	Mau	
Cat. #	Number of Strings	Max Current (A)	Description
CCBF04SL	4	48	4 string compact combiner, N4X Fiberglass
CCBF04SL F15	4	48	4 string compact combiner, N4X Fiberglass, 15A Fuse
CCBF06SL	6	72	6 string compact combiner, N4X Fiberglass
CCBF06SL F15	6	72	6 string compact combiner, N4X Fiberglass, 15A Fuse

cETLus 1741 Listed
cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1
NEMA 4X (fiberglass and stainless steel)

NEMA 4 (powder coated steel)

NEMA 3R (painted steel)

Application:

In large photovoltaic (PV) systems, multiple combiner boxes are often necessary, and the outputs of these combiner boxes may need to be combined again—recombined—before reaching a central inverter. Eaton's Crouse-Hinds Recombiner Boxes allow for ease of installation, saving time, labor, and most importantly, system costs. Solar Recombiners range from 2 to 12 input circuits, with a durable non-metallic (NEMA 4X) or metallic (NEMA 3R) painted steel enclosure.

Features:

- Rated for 600 VDC or 1000 VDC continuous duty
- 2-12 input circuits with configurations up to 1200A
- · Installed fuses included
- · Lexan shield covers all live components
- 90°C output terminals
- · Configured for positive and negative grounded arrays
- Busbar design

Certifications and Compliances:

- cETLus 1741 Listed
- cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1
- NEMA 4X (fiberglass and stainless steel)
- NEMA 4 (powder coated steel)
- NEMA 3R (painted steel)







Options:

- NEMA 3R painted steel‡
- NEMA 4X fiberglass
- NEMA 4X stainless steel
- NEMA 4 powder coated steel
- Surge protection
- Smart recombiners available (DC string monitoring)
- Factory drilled entrance holes
- · Factory installed conduit fittings
- Bipolar construction
- · Factory installed breather drain and desiccant
- Integral power supply, flex I/O, terminal blocks
- Integral disconnects available in 100A, 250A, 400A, and 600A† consult factory
- Custom options available consult factory

CATALOG NUMBERING SYSTEM

Use the table below to build a catalog number for a recombiner configuration that matches your specific project requirement.

BASE SOLAR RI	BASE SOLAR RECOMBINER		WITH OPTIONAL Surge Protection	DC Monitoring	VOLTAGE
CRBF	<u>02</u>	<u>F100</u>			<u>1000V</u>
Enclosure Type	Number of Input Circuits	Fuse Amperage	Surge Protection	DC Monitoring	Voltage
CRBF (Fiberglass N4X) CRBS (Painted Steel N3R) CRBSS (Stainless Steel N4X) CRB4S (Powder Coated Steel N4)	02 (2 input circuit) 03 (3 input circuit) 04 (4 input circuit) 04 (4 input circuit) (Offered up to 12 circuits) Consult factory for available configurations greater than 4 input circuits (up to 12 circuits available)	F60 (60A fuse) F250 (250A fuse) F757 (75A fuse) F275 (250A fuse) F100 (100A fuse) F300 (300A fuse) F125 (125A fuse) F325 (300A fuse) F150 (150A fuse) F350 (350A fuse) F175 (175A fuse) F376 (350A fuse) F200 (200A fuse) F400 (400A fuse) F225 (250A fuse) Consult factory for additional fuse size options • Eaton's Bussmann fuses recommended	SP (Surge Protection) • 30kA/600 VDC interrupting rating or 30kA/1000 VDC • IP20 finger-safe construction • Small size takes up minimal space in enclosure (only 2 inches wide) BLANK (No surge protection)	DCM Pre-installed DC current monitoring units BLANK (No DC current monitoring)	1000V (1000V) BLANK (600V)

†UL98B Listed Disconnect Switch 1000V. ‡Suitable for vertical mounting applications only.

Disconnect Boxes

Application:

Eaton's Crouse-Hinds Solar Disconnect Enclosures are used as a disconnecting means prior to the inverter and rated for either 600 or 1000 VDC applications. Disconnect Enclosures range from 1 to 12 input circuits, with a wide range of disconnect sizes, configurations, and enclosure options for maximum customer flexibility.

Features:

- Rated for 600 VDC or 1000 VDC continuous duty
- 1-12 input circuits
- 90°C output terminals
- Includes Touch-Safe protective cover
- · Configured for positive and negative grounded arrays

Certifications and Compliances:

- cETLus 1741 Listed
- cETLus Listed to CSA Standard C22.2 No. 31 & No. 107.1
- NEMA 4X (fiberglass and stainless steel)
- NEMA 4 (powder coated steel)
- NEMA 3R (painted steel)





Options:

- NEMA 3R painted steel‡
- NEMA 4X fiberglass
- NEMA 4X stainless steel
- NEMA 4 powder coated steel
- Factory drilled entrance holes
- Factory installed conduit fittings
- Smart boxes available (DC string monitoring) consult factory
- Integral power supply, flex I/O, terminal blocks
- Integral disconnects available in 100A, 250A, 400A, and 600A
- Multiple disconnect options available consult factory

CATALOG NUMBERING SYSTEM

Use the table below to build a catalog number for a disconnect box configuration that matches your specific project requirement.

BASE SOLAR	DISCONNECT	NUMBER OF Fuses (optional)	FUSE AMPERAGE (OPTIONAL)	DISCONNECTS	INTEGRAL Disconnect	SURGE Protection	VOLTAGE
CDBS	<u>04</u>			4	<u>DS250</u>		<u>1000V</u>
Enclosure Type	Number of Input Circuit	Fuses	Fuse Amperage	Number of Disconnects	Rating for Integral Disconnect	Surge Protection	Voltage
CDBF (Fiberglass N4X) CDBS (Painted Steel N3R) CDBSS (Stainless Steel N4X) CDB4S (Powder Coated Steel N4)	01 (1 input circuit) 02 (2 input circuit) 03 (3 input circuit) 04 (4 input circuit) 05 (5 input circuit) 06 (6 input circuit) (Offered up to 12 circuits*)	1 (1 fuse) 2 (2 fuse) 3 (3 fuse) 4 (4 fuse) 5 (5 fuse) 6 (6 fuse) (Offered up to 12 fuses")	BLANK (non-fused) F100 (100A fuse) F275 (250A fuse) F150 (100A fuse) F300 (300A fuse) F150 (150A fuse) F305 (350A fuse) F175 (175A fuse) F350 (350A fuse) F200 (200A fuse) F375 (350A fuse) F225 (250A fuse) F250 (250A fuse) (0ffered up to 400A fuses*)	BLANK (1 disconnect switch) 2 (2 disconnects switches) 3 (3 disconnects switches) 4 (4 disconnects switches) (Up to 12 disconnects allowed)	DS (Disconnect switch for use with 1 - 12* input circuits) DS100 (100A) DS250 (250A) DS400 (400A) DS600 (600A)	SP (Surge protection) BLANK (No surge protection)	1000V (1000V) BLANK (600V)

^{*}For additional disconnect sizes and fuse requirements in the same enclosure, repeat number of fuses through integral disconnect selection steps. ‡Suitable for vertical mounting applications only.

Applications:

A comprehensive offering of solar cable assemblies are available utilizing all of the standard connector types including MC4, H4, SolarLok, and Gesis. Configurations are structured to utilize photovoltaic wire listed to UL4703 and USE-2 requirement. Conductor sizes of 8 AWG, 10 AWG, and 12 AWG are available dependent on system requirements. Each harness is produced to customer specific requirements. Options include in-line fusing, custom I.D. marking, bundling, spooling, color markers, and custom lengths.

Homerun Assemblies:

Sunnector Homerun Harnesses are designed for high current connection and power delivery to combiner boxes, sub-combiners, or inverters used with mono-crystalline and poly-crystalline modules. Fully tested pre-engineered Sunnector Homerun Harnesses arrive terminated, bundled, and spooled, replacing on-site long wire runs, bundling, attachment, and connector termination.



Parallel Array Assemblies:

Sunnector Parallel Circuit Array Harness Assemblies feature a proprietary junction system that allows multiple arrays to be connected in parallel, providing labor savings and improving connection quality by eliminating multiple adapters and double terminations.

Parallel Circuit Harnesses are ideal for Thin Film type modules, where low current can be electrically paralleled to optimize, but can be utilized for crystalline modules when system current ratings are met.

- Ideal for installations where modules are electrically paralleled with multiple arrays integrating to one combiner box or inverter
- The X-Mold junction conveniently merges module arrays while allowing multiple connection points on each leg
- Harnesses made with T-Mold junctions provide a quick and easy way to connect module arrays to a combiner box



*MC4 is a trademark of Multi-Contact. H4 is a trademark of Amphenol. SolarLok is a trademark of Tyco Electronics. Gesis is a trademark of Wieland, Inc.

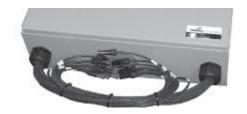
Certifications and Compliances:

Connectors:

- UL Certified to UL6703 and UL1703
- TUV Certified
- IP67 or IP68 rated

Wire/Cable:

- UL Certified to UL4703/UL854
- Available in standard or custom cable lengths, with or without an in-line fuse



Solar Pass Through Boxes

Applications:

Eaton's Crouse-Hinds Solar Pass Through Boxes (sometimes referred to as "transition boxes") are used in residential applications to provide a low profile, cost-effective way to group input wires/circuits from several arrays and/or solar panels and transition from solar (PV) cable to regular building wire. The Pass Through Box was designed for PV applications where overcurrent protection is not necessary due to the low power rating of the PV string.

Features:

- Rated 600 VDC continuous duty
- Constructed in accordance with UL1741 standards, providing spacious wiring room for quick, easy wire termination
- Factory installed multi-hole solar cord grip provides dependable, secure wire termination to enclosure and saves field installation – eliminating the need for enclosure drilling – saving time and labor
- Fiberglass enclosures with captive stainless steel screws and formed-in-place polyurethane seamless gasket provided as standard
- Available in N3R sheet steel enclosures consult factory
- Lightweight design offers easy mounting capabilities; optional mounting feet are available for increased customer flexibility
- Rated for continuous operation at 60°C

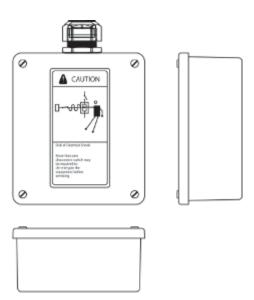


Certifications and Compliances:

- cETLus 1741 Listed
- cETLus 1741 Listed to CSA Standard C22.2 No. 31 & No. 107.1
- NEMA 4X

Standard Materials and Finishes:

- Hot compression molded fiberglass-reinforced thermoset polyester
- Non-conductive, impact-resistant, UV-resistant, flame retardant
- Poured polyurethane seamless gasket provides water-tight, dust-tight environmental seal
- · Stainless steel used on all external hardware



Ordering Information:

	Description	Co+ #	Description
Cat. #	Description	Cat. #	Description
CPBF03	3 Circuit Pass Through Box	CPBF20	20 Circuit Pass Through Box
CPBF04	4 Circuit Pass Through Box	CPBF21	21 Circuit Pass Through Box
CPBF05	5 Circuit Pass Through Box	CPBF22	22 Circuit Pass Through Box
CPBF06	6 Circuit Pass Through Box	CPBF23	23 Circuit Pass Through Box
CPBF07	7 Circuit Pass Through Box	CPBF24	24 Circuit Pass Through Box
CPBF08	8 Circuit Pass Through Box	CPBF25	25 Circuit Pass Through Box
CPBF09	9 Circuit Pass Through Box	CPBF26	26 Circuit Pass Through Box
CPBF10	10 Circuit Pass Through Box	CPBF27	27 Circuit Pass Through Box
CPBF11	11 Circuit Pass Through Box	CPBF28	28 Circuit Pass Through Box
CPBF12	12 Circuit Pass Through Box	CPBF29	29 Circuit Pass Through Box
CPBF13	13 Circuit Pass Through Box	CPBF30	30 Circuit Pass Through Box
CPBF14	14 Circuit Pass Through Box	CPBF31	31 Circuit Pass Through Box
CPBF15	15 Circuit Pass Through Box	CPBF32	32 Circuit Pass Through Box
CPBF16	16 Circuit Pass Through Box	CPBF33	33 Circuit Pass Through Box
CPBF17	17 Circuit Pass Through Box	CPBF34	34 Circuit Pass Through Box
CPBF18	18 Circuit Pass Through Box	CPBF35	35 Circuit Pass Through Box
CPBF19	19 Circuit Pass Through Box	CPBF36	36 Circuit Pass Through Box

Solar Combiner Solutions

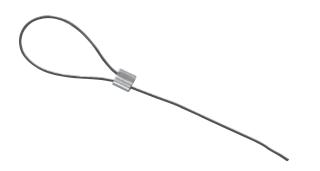
Solar Accessories

Cable Tie and Cable Clip Applications:

Eaton's Crouse-Hinds Solar Cable Clips and Ties provide cable management options for bundling and harnessing PV solar wire anywhere between the panels to the inverter.

Cable Tie Features:

- Equipped with a UV protected vinyl jacket which prevents damage to installation cable insulation and ensures durability
- Tin plated with a copper crimp sleeve which allows for easy field installation
- Constructed from commercial aircraft grade stainless wire for long, dependable service



Standard Materials and Finishes:

• UV resistant vinyl jacketing, tin plated copper crimp sleeve, commercial aircraft grade stainless wire

Cable Tie Ordering Information:

	Part Spec			ication		Part Dimensions		
		Min. Tens	sile Strength	Max. Bundle Dia.	Length	Cable Dia.	•	
Cat. #	Description	Lbs.	N	in.	in.	in.	Unit Qty	Wt. Lbs. Per 100
SCBLTIE8 SCBLTIE10 SCBLTIE12 SCBLTIE14	Solar Cable Tie 8" Solar Cable Tie 10" Solar Cable Tie 12" Solar Cable Tie 14"	100	440	2.3 2.92 3.88 4.2	8 10 12 14	0.06	100 100 100 100	1 1 1 1

Cable Clip Features:

- Manufactured out of corrosion-resistant 304 stainless steel
- Double compression design which can accommodate (2) 12 gauge USE-2 wire or (2) 10 gauge PV-1000 wires
- Smooth clip edges which prevent damage to cable insulation
- Screwdriver designed slot which allows for easy removal or movement of the clip when necessary

Standard Materials:

• Corrosion-resistant 304 stainless steel



Cable Clip Ordering Information:

Panel Thickness Clamping Range

		Minimum	Maximum	Wire Dia. Range	Foot Print	Overall Height		
Cat. #	Description	in.	in.	Max. (2) Wires	in.	in.	Unit Qty	Wt. Lbs. Per 100
SCLP1	Solar PV Cable Clip	0.06	0.125	.20" (5.0 mm) - .30" (7.6 mm) each cable	1	0.39	100	1

Cord And Cable Connectors

Solar Non-Metallic Cord Grips

Applications:

Eaton's Crouse-Hinds Solar Cord Grips are used in both commercial and residential grid-tied PV solar applications and are designed to accommodate the entry of multiple PV wires coming into a combiner or pass through box. The Solar Cord Grips provide mechanical strain relief as well as a liquidtight seal around the solar panel wires.

Features:

- Multi-hole cord grip to allow for entry of multiple PV wires
- Solar cord grips offer customer flexibility by allowing the termination from 1 to 31 PV wires in a single connector
- Skinned over glands provide a durable, liquidtight seal around the wires
- No disassembly required for installation
- 5MM offering accommodates USE-2, 12AWG, and 10AWG wire
- 7MM offering accommodates 1000V PV cable, 12AWG, and 10AWG wire
- Temperature rating: -22°F (-30°C) to 212°F (100°C) to meet the most demanding environmental conditions

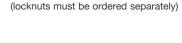


Photo shown with steel locknut



Certifications and Compliances:

- UL/cUL Listed
- IP68
- Flammability rating: 94-V2

Standard Materials:

• % nylon with TPE/Buna N sealing glands

Ordering Information:

Cat. #	Trade Size	No. of Holes	Hole Cable Diam.	Wire Type	Size
NCGS25*	3/4"	5 Holes	5MM	USE-2	12AWG, 10AWG
NCGS237	3/4"	3 Holes	7MM	1000V PV Cable	12AWG, 10AWG
NCGS39*	1"	9 Holes	5MM	USE-2	12AWG, 10AWG
NCGS357	1"	5 Holes	7MM	1000V PV Cable	12AWG, 10AWG
NCGS413*	11/4"	13 Holes	5MM	USE-2	12AWG, 10AWG
NCGS497	11/4"	9 Holes	7MM	1000V PV Cable	12AWG, 10AWG
NCGS631*	2"	31 Holes	5MM	USE-2	12AWG, 10AWG
NCGS6197	2"	19 Holes	7MM	1000V PV Cable	12AWG, 10AWG

^{*}UL recognized, but not listed. Consult factory for additional information.

Locknut Ordering Information:

Material	Cat. #	Trade Size	
	12	3/4"	
21	13	1"	
Steel	14	11/4"	
	16	2"	
	12 SA	3/4"	
	13 SA	1"	
Aluminum	14 SA	11/4"	
	16 SA	2"	
NI	12N	3/4"	
Non-metallic	13N	1"	
	12DC	3/ ₄ "	
Zinc	13DC	1"	
ZIIIC	14DC	11/4"	
	16DC	2"	

Solar Lay-In Grounding Lug

Applications:

Solar Lay-In Grounding Lugs are the ideal choice for the quick installation of one continuous grounding conductor or as a jumper to multiple locations. Just unscrew the set screw, lay in the cable, and re-tighten, making it easy to retrofit or repair.

Features:

- Tin plated copper for additional corrosion resistance • Tin plated copper. ...
 • For use with #4-14 cable

 - Stainless steel slotted screw
 - Suitable for direct burial and outdoor use
 - Ideal for continuous grounding of solar PV panels
 - Suitable for use with copper conductors only, solid or stranded

Standard Materials and Finishes:

- Body copper, tin plated
- Screw stainless steel, natural

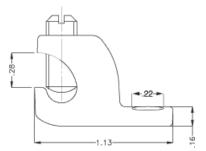
Certifications and Compliances:

- cULus Listed
- UL File No. E-6225

Ordering Information:

Cat. #	Description	Cable	Unit Qty.	Wt. Lbs. Per 100
SLL414T	Solar Grounding Lug	#4-14	100	5





Technical Information

Combiner Technical Information:

Solar Combiner CCB Series Technical Information

	Standard Design:			Tech Spec								Mechanical Spec*	
1.0) CCB Series	Description	Voltage†	Max Current	Max Fuse Size	Max PV Module Short Circuit Current*	Ambient	Input Conductors (Cu Only)		Output Conductors (Cu/AI)‡		Dimensions	NEMA Rating
			(VDC)	(A)	(A)	(A)	(°C)	Wire Gauge	Torque (in-lbs)	Wire Gauge	Torque (in-lbs)	(in)	Туре
1.1	CCB_06	6 String Combiner Box (01-06 Strings)	600/1000	99	30	13.2/ 8.8	50	#14-#8	25	250MCM	250	16 x 14 x 06	4X/ 4/ 3R
1.2	CCB_12	12 String Combiner Box (07-12 Strings)	600/1000	198	30	13.2/ 8.8	50	#12-#8	25	250MCM	250	16 x 14 x 06	4X/ 4/ 3R
1.7	CCB_18	18 String Combiner Box (13-18 Strings)	600/1000	231	30	8.8/ 8.8	50	#12-#8	25	350MCM	250	18 x 16 x 08	4X/ 4/ 3R
1.3	CCB_24	24 String Combiner Box (13-24 Strings)	600/1000	264	30	8.8/ 8.8	50	#12-#8	25	350MCM	250	20 x 16 x 08	4X/ 4/ 3R
1.4	CCB_36	36 String Combiner Box (25-36 Strings)	600/1000	342	30	7.6/ 6.4	50	#10-#8	25	(2) 600MCM	250	30 x 24 x 07	4X/ 4/ 3R
1.5	CCB_06 DS	6 String Combiner Box w/ Integral Disconnect Switch (01-06 Strings)	600/1000	100	30	13.2/ 8.8	50	#14-#8	25	250MCM	250	18 x 16 x 08	4X/ 4/ 3R
1.6	CCB_12 DS	12 String Combiner Box w/ Integral Disconnect Switch (07-12 Strings)	600/1000	200	30	13.2/ 8.8	50	#12-#8	25	250MCM	250	18 x 16 x 08	4X/ 4/ 3R
1.7	CCB_18 DS	18 String Combiner Box w/ Integral Disconnect Switch (13-18 Strings)	600/1000	225	30	8.8/ 8.8	50	#12-#8	25	350MCM	250	20 x 16 x 08	4X/ 4/ 3R
1.7	CCB_24 DS	24 String Combiner Box w/ Integral Disconnect Switch (13-24 Strings)	600/1000	250	30	8.8/ 8.8	50	#12-#8	25	350MCM	250	24 x 20 x 08	4X/ 4/ 3R
1.8	CCB_36 DS	36 String Combiner Box w/ Integral Disconnect Switch (25-36 Strings)	600/1000	400	30	7.6/ 6.4	50	#10-#8	25	(2) 600MCM	250	36 x 30 x 08	4X/ 4/ 3R
1.9	CCB_04 SL	4 String Small Line Combiner Box (01-04 Strings)	600	48	15	9.6	50	#14-#8	25	#2 AWG	250	08 x 08 x 06	4X/ 4/ 3R

Solar Recombiner CRB Series Technical Information

Standard Design:			Tech Spec								Mechanical Spec*		
2.0 CRB Series		Description	Voltage†	Max Current	Max Fuse Size	Max PV Module Short Circuit Current	Ambient	Input Conductors (Cu/Al)		Output Conductors (Cu/AI)‡		Dimensions	NEMA Rating
			(VDC)	(A)	(A)	(A)	(°C)	Wire Gauge (Cu/Al)	Torque (in- lbs)	Wire Gauge	Torque (in-lbs)	(in)	Туре
2	1 CRB_03	3 Array Recombiner Box (01 - 03 Strings)	600/1000	1200	400	256.4	50	#4 - 500MCM	450	#2 - (2)600MCM	150- 450	48 x 36 x 12	4X/ 4/ 3R
2	2 CRB_06	6 Array Recombiner Box (01 - 06 Strings)	600/1000	1200	200	128.2	50	#6 - 250MCM	275- 375	#2 - (2)600MCM	150- 450	48 x 36 x 12	4X/ 4/ 3R
2	3 CRB_12	12 Array Recombiner Box (01 - 12 Strings)	600/1000	1200	100	64.1	50	1/0 - 8	100	#2 - (2)600MCM	150- 450	48 x 36 x 12	4X/ 4/ 3R
2	4 CRB_03 DS	3 Array Recombiner Box w/ Integral Disconnect Switch (01 - 03 Strings)	600/1000	1200	400	256.4	50	#4 - 500MCM	450	#2 - (2)600MCM	150- 450	60 x 36 x 12	4X/ 4/ 3R
2	5 CRB_06 2DS	6 Array Recombiner Box w/ Integral Disconnect Switch (04 - 06 Strings)	600/1000	1200	200	128.2	50	#6 - 250MCM	275- 375	#2 - (2)600MCM	150- 450	60 x 36 x 12	4X/ 4/ 3R
2	6 CRB_12 2DS	12 Array Recombiner Box w/ Integral Disconnect Switch (07 - 12 Strings)	600/1000	1200	100	64.1	50	1/0 - 8	100	#2 - (2)600MCM	150- 450	60 x 36 x 12	4X/ 4/ 3R

* For Fiberglass Only, Consult Factory for additional information † Dual ratings indicate 600V Rating Followed by 1000V Rating. Consult Factory for special ouput conductor requirements. CSA for 600VDC only.

Combiner Technical Information:

Overcurrent Protection - PV Fuse-Links

	Energy In	egrals (A2s)	Power Loss (watts)		
Current Rating	Pre-Arcing	Total at 1000V	0.8 ln.	In.	
8A	3	32	0.5	2.0	
10A	7	50	0.6	2.1	
12A	10	100	1.3	2.6	
15A	20	200	1.8	3.0	

Solar Combiner Fiberglass Enclosure Dimensional Information

Enclosure Cat. #	Enclosure Size	Overall Dimensions Inches (HxWxD)	Inside Dimensions Inches (HxWxD)	Mounting Dimensions Inches (HxWxD)	Approximate Weight (lbs.)
FJHP161406	16x14x06	17.53x15.46x6.23	15.63x13.60x5.94	16.75x12.00	12 LBS
FJHP201608	20x16x08	22.00x17.68x8.83	19.72x15.72x8.45	21.25x10.00	20 LBS
F4WMSHL242008	24x20x08	27.00x21.24x9.90	24.05x20.39x9.25	25.75x14.00	31 LBS
F4WMSHL302407	30x24x07	33.41x26.32x8.81	30.46x25.47x7.12	32.25x18.50	45 LBS
F4WMSHL363008	36x30x08	39.31x32.50x10.05	36.31x31.69x9.36	38.13x23.88	58 LBS

Industrial Control & Circuit Breakers

Section C

Innovative, intelligent NEC and IEC solutions safely and efficiently control power and protect circuits in explosive, wet, and corrosive environments worldwide.











New Products in the Control Product Line

- EMN Series Pushbutton Style Compact Manual NEMA Starters
 EMN Series Pushbutton Style Compact Manual IEC Starters
- GUSC Enclosures with Manual Motor Starters
- XLC Explosionproof Lighting Contactors
- DSD-TS Series Timers
- ACE20 Series Explosionproof Variable Frequency Drives
- Engineered Solutions

Section

- 2C 2C 2C 5C
 - 5C
 - 6C 7C

C Industrial Control and Circuit Breakers

Table of Contents

Section C of the Eaton's Crouse-Hinds Product Catalog lists motor control, circuit breakers, variable frequency drives, and engineered solutions and switch racks. Information on application, features, standard materials, standard finishes, size ranges, compliances, options, and accessories are presented for ease of product selection.

Information relating to product families in Section C is grouped as follows:

Section 1C

Combination Motor Starters

(for hazardous and non-hazardous areas)

Combination magnetic line starters and enclosures for across-theline motor starting, motor disconnect, motor and line protection, and start-stop operations.

For hazardous areas For non-hazardous areas

EBMC NMC

EPC

Section 2C

ပ

Motor Starters

(for hazardous and non-hazardous areas)

Line starters and enclosures for manual and magnetic across-theline starting of motors, motor protection, and remote and manual starting and stopping.

Magnetic starters	Manual	starters
EBMS	EFD	GHG
EPC	EDS	NSSC
NMG	EMN	NFSC
	MC	NMN
	EMN	GUSC

Section 3C

Circuit Breakers

(for hazardous and non-hazardous areas)

For use in conjunction with a variety of heating, lighting, and power circuits to provide disconnect means and short circuit protection.

For hazardous areas For non-hazardous areas

EBMB NCB

EFD EPC EIB FLB

Section 4C

Traditional Control Stations

(for hazardous and non-hazardous areas)

For means of remote and local motor control, visual indicators and circuit control and selection. Offers a selection of pushbuttons, pilot lights, and selector switches.

For hazardous areas

 FlexStation
 GHG43

 EDS / EDSC
 N2SU / N2SCU

 EDSCM
 N2FA / N2FAC

 DSD / DSD-SR
 N2S / N2SC

EDS EFS MC / MCC OAC For non-hazardous areas

MC

Section 5C

Specialty Control Stations

(for hazardous and non-hazardous areas)

For means of remote and local motor control, visual indicators and circuit control and selection. Offers a selection of push buttons, pilot lights, selector switches.

 EJB Custom Control Panels
 AFA / AFAX

 EMP / EMPS
 D2X

 EGL
 EGF

 AFU / AFUX
 XLC

 DSD-TS

Section 6C

Explosionproof Variable Frequency Drives

(for hazardous areas)

Highly flexible AC drives designed specifically for hazardous area locations. These drives can be mounted next to the motor in the classified area, providing significant installation cost savings - along with the traditional VFD benefits of energy savings, speed and torque control, and system diagnostics.

Section 7C

Engineered Solutions

(for hazardous and non-hazardous areas)

For motor control centers in outdoor and/or hazardous areas.

For hazardous areas For non-hazardous areas

ERK WRK

DRK

see page 457

Combination Motor Starters Hazardous and Non-hazardous Areas

Description	Page No		
Application/Selection	see page 446		
Combination Line Starters and Enclosures Single speed, non-reversing, with circuit breakers & disconnect switches			
EBMC Series	see page 447		
EPC Series	see page 454		
NMC Nonmetallic Series Single speed, non-reversing, with motor circuit protectors	see page 458		
EBMC Series	see page 453		

EPC Series

Application and Quick Selector Chart

Applications:

Combination line starters are housed in enclosures suitable for specific environments, and are used for:

- · Across-the-line starting of polyphase AC induction motors
- · Providing disconnect means
- Branch circuit protection
- Motor running protection
- · Remote starting and stopping

Considerations for Selection:

Considerations for selection of proper enclosure:

- The environment of the enclosure location in accordance with NEC/CEC and NEMA/EEMAC requirements
- The characteristics of the starter and breaker to be enclosed
- See "Quick-Selector" below for guidance

Materials and Finishes:

- Standard material on EBMC and EPC Series is copper-free aluminum with natural finish
- EBMC and EPC optional finish is *Corro-free*™ epoxy for use in exceptionally corrosive atmospheres
- Standard material on NMC Series is Krydon® high impact fiberglass-reinforced polyester, providing excellent corrosion resistance and stability to heat

Options and Accessories:

Some of the options and accessories available for particular applications are:

- Push buttons
- · Selector switches
- · Control transformers
- Extra overload relays
- Extra interlock contacts
- · Neutral connectors (both insulated and grounded)
- · Breathers and drains

See individual listings for specific options. Many are available in kit form for field addition to existing units.

Quick Selector Chart

			NEMA/ EEMAC Starters	Manufacturers	Equipment Enclo	sed
Enclosures	NEC/CEC – Hazardous Area Certifications and Compliance	NEMA/EEMAC Enclosure Type	Single Speed Non-Reversing	Starter	Breaker/Switch	Cover Type
EBMC	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 4*, 7BCD, 9EFG, 12	0 – 5	Allen-Bradley G.E. Square D Cutler-Hammer	G.E. Square D Cutler-Hammer	Bolted/Ground Joint/Gasketed
EPC	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 4, 7CD, 9EFG, 12	0 – 3	Allen-Bradley G.E. Square D Cutler-Hammer	G.E. Square D Cutler-Hammer	Threaded
NMC	-	3, 4X, 12	0 – 4	Allen-Bradley G.E. Square D Cutler-Hammer	G.E. Square D Cutler-Hammer	Gasketed

^{*}Without EMP control devices

EBMC Combination Line Starters and Enclosures

CI. I, Div. 1 & 2, Groups B, C, D
CI. II, Div. 1, Groups E, F, G
CI. II, Div. 2, Groups F, G
CI. III
NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

1**C**

Applications:

Spectrum™ EBM hinged cover motor control enclosures are used:

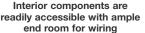
- For general motor control and circuit protection indoors and outdoors – in damp, wet, dirty, dusty hazardous locations without the need for a protective shelter
- In areas where frequent washdowns are necessary or where heavy rain or water spray is prevalent
- For across-the-line starting, stopping, speed changing and reversing of polyphase AC induction motors
- To provide line disconnect means and short circuit protection
- To provide motor overload and undervoltage protection
- For service entrance, feeder or branch circuit protection for lighting, heating, appliance and motor circuits
- On switchracks or other assemblies where it's desired that motor control be centrally located

Features:

- Rugged, corrosion resistant, cast copper-free aluminum construction (less than 0.4 of 1%)
- Component operating handles located through the right side wall of the body permits visual confirmation of correct component assembly and operation
- Total compliance to the wiring end room requirements of the National Electrical Code*/Canadian Electrical Code
- Semi-clamshell enclosure design, with an external flanged ground joint between body and cover makes interior components more accessible
- Minimum enclosure-to-enclosure spacing with little interference between the opened cover and an adjacent enclosure
- Stainless steel hinges allow the cover to swing well out of the way
- Stainless steel, quick release, captive, hex head cover bolts.
 Stainless steel springs provide clear indication cover bolts are fully retracted from body
- Versatile, internal operating mechanisms allow for field adjustment to accommodate popular manufacturers' starters and breakers
- Simple, straightforward installation of breaker and starter on predrilled mounting plate within enclosure. Mounting plate also field removable
- Circuit breaker motor circuit protector external operating handle can be padlocked in either "ON" or "OFF" positions
- Neoprene cover gasket permanently attached to the cover seals out moisture
- Bodies have top and bottom drilled and tapped entrances for power conduits plus one at the bottom for control conduit.
 Removable reducers are supplied, as standard, to accommodate smaller size conduits. All conduit entrances are plugged.
- Tap-on mounting feet
- Optional EMPS control devices may be added to enclosure cover
- Steel bracket for lifting larger enclosures during installation supplied as standard

*National Electrical Code is a Registered Trademark of the National Fire Protection







Side operators leave cover free for control options

Certifications and Compliances:

NFC/CFC:

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

- UL Standards UL1203 Hazardous (classified) locations
- UL Subject 2062 High AIC rating (Interrupting Capacity)
 For Groups C & D only

	Volt	RMS Symm-Amperes	
	240	65,000	
	480	50,000	
	600	25,000	
•	CSA Standard: C22.2 No. 30		

- NEMA/EEMAC: 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12
- ‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

Standard Materials:

- Body and cover copper-free aluminum
- Operating handle copper-free aluminum
- Operating shafts and bushings stainless steel
- Cover bolts, hinges, washer and retractile springs stainless steel
- Interior parts sheet steel, electrogalvanized

Electrical Rating Range:

- Motor starters NEMA/EEMAC sizes 0-5
- Circuit breakers 100, 150, 225, 250, 400, 600, 800, 1000† ampere frame sizes
- Motor circuit protectors 150, 250, 400 ampere frame sizes

† 1000 Ampere Frame (max. 800 ampere trip)

EBMC Combination Line 1C Starters and Enclosures

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Options:

The following options are available from the factory by adding suffix to catalog number - suffixes are added alphanumerically.

Catalog Number System Example

EBMC1FB-①-DT30FAL36-W643-②

- ① Options in this position are additions to the enclosure itself and should be listed alphanumerically.
- ② Options in this position are modifications to the starter and/or circuit breaker and should be listed alphanumerically.



EBMC Series motor control enclosures with combination line starters.

When specifying any one of the following options with Spectrum™ EBM Motor Controls (J1, J3, PB23, RR2, RR3) it is necessary to order DSL Legend Plates for identification and marking of the device(s) being used.

	sition	C. effic
Description in (• Ambient compensated circuit breaker trip	Cat. #	Suffix
Less overload relays (lighting contactor) Less overload relays (motor contactor) Control Circuit Transformer, 100VA for NEMA/EEMAC sizes 0–2, 600/480/240–120,	1	AC CL CM
50 / 60 Hertz, with provision for fusing both primary leads and one secondary lead (fuses not provided)	1	FTPS100
50 / 60 Hertz, with provision for fusing both primary leads and one secondary lead (fuses not provided)	1	FTPS200
leads and one secondary lead (fuses not provided) • Pilot light, 120VAC, red jewel, w/blank	1	FTPS300
indicating plate • Pilot light, 120VAC, green jewel, w/blank	1	J1
indicating plate • LED pilot lights (in place of standard	1	J3
incandescent lamps) Less heaters in starter overload relay Start-Stop pushbuttons (requires 2 spaces) On-Off selector switch Hand-Off-Auto selector switch Space heater, 120 Volt, 25 Watts	② ① ① ①	LED 0 PB23‡ RR2‡ RR3‡ R11
Space heater, 240 Volt, 25 Watts Space heater, 480 Volt, 25 Watts Automatic reset overload relay Insulated neutral w/2 connectors Std. drain, Class I, B,C & D; Class II, E, F & G;	1	R22 R44 S1 S146
Class III Std. breather & drain, Class I, B,C & D; Class II,		S756‡
E, F & G; Class III	1	\$756V‡ \$752 \$753
Auxiliary contacts on starter 1 N.O. & 1 N.C	2	\$781 \$782 \$783
ontacts Auxiliary switch on Circuit Breaker 2A and 2B		S784
 contacts 12 Point term. block – 30 Amp, 300V General purpose control relay, 4 pole N.O., contacts rated 10A@600V, coil 120VAC, 		S785 S786
50 / 60 hertz	①	\$787*

*Use of this option with NEMA/EEMAC Size 0, or 1 starters necessitates using the larger "D" size enclosure.

‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. Breather and drain

entries must be plugged for NEMA 4 rating. ††With S752 or S753.

EBMC Combination Line Starters and Enclosures

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Options:

- If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below.
- Insert Legend Plate(s) Catalog Number (i.e. DSL16) immediately after optional device in the EBM Catalog Number.
- If EMP devices are to be added in the field, DSL Legend Plates must be ordered separately as they are not furnished with the EMP/EMPS devices.

Example:

EBMC1FB-J1-DSL14-J3-DSL09-DT30FAL36-W643

Use the charts below to select the appropriate legend plate(s) for your application. Markings shown in **bold print** are etched; all others are stamped.

	Two Function Legend Plates	
Cat. #	Marking	Cat. #
DSL16 DSL01 DSL02 DSL21 DSL23 DSL17	Blank with 2 fields For-Rev Hand-Auto In-Out Off-On Open-Close	DSL03 DSL30 DSL29 DSL35 DSL48 DSL32
DSL46 DSL18 DSL15 DSL24 DSL10 DSL27	Raise-Lower Run-Jog Safe-Run Start-Stop Slow-Fast Up-Down	DSL36 DSL28 DSL86 DSL37 DSL65 DSL33
DSL07 DSL08 DSL20 DSL25	Three Function Legend Plates Marking	Cat. #
DSL14 DSL26	Auto-Off-Hand Blank with 3 fields	DSL49 DSL04
DSL12 DSL19 DSL09 DSL85	Fast-Off-Slow For-Off-Rev Hand-Off-Auto Run-Off-Jog	DSL41 DSL40 DSL39 DSL38
DSL47 DSL05	Open-Off-Close Raise-Off-Lower	DSL43 DSL87
DSL06 DSL13 DSL11 DSL22	Slow-Off-Fast Up-Off-Down 1-Off-2	DSL88 DSL44 DSL42
	DSL16 DSL01 DSL02 DSL21 DSL23 DSL17 DSL46 DSL18 DSL15 DSL24 DSL10 DSL27 DSL07 DSL08 DSL27 DSL07 DSL08 DSL20 DSL25 DSL14 DSL26 DSL12 DSL19 DSL26 DSL12 DSL19 DSL09 DSL85 DSL47 DSL05 DSL05 DSL06 DSL13 DSL11	Cat. # Marking DSL16 Blank with 2 fields DSL01 For-Rev DSL02 Hand-Auto DSL21 In-Out DSL23 Off-On DSL17 Open-Close DSL46 Raise-Lower DSL18 Run-Jog DSL15 Safe-Run DSL24 Start-Stop DSL10 Slow-Fast DSL27 Up-Down DSL07 Three Function Legend Plates DSL25 Marking DSL26 Auto-Off-Hand Blank with 3 fields Fast-Off-Slow Fast-Off-Slow For-Off-Rev DSL09 Hand-Off-Auto DSL85 Run-Off-Jog DSL47 DSL05 Raise-Off-Lower DSL06 Slow-Off-Fast Up-Off-Down DSL06 DSL13 Up-Off-Down DSL06 DSL13 Up-Off-Down DSL06 DSL13 Up-Off-Down DSL06 DSL13 Up-Off-Down DSL11 1-Off-2

Background color for all legend plates is black with the following exceptions:

Marking	Plate Color
Start Stop Emerg. Stop	Green Red Red
RYART	HAND OFF AUTO
MIRA STOP	POWED ON OFF ON
	00

‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

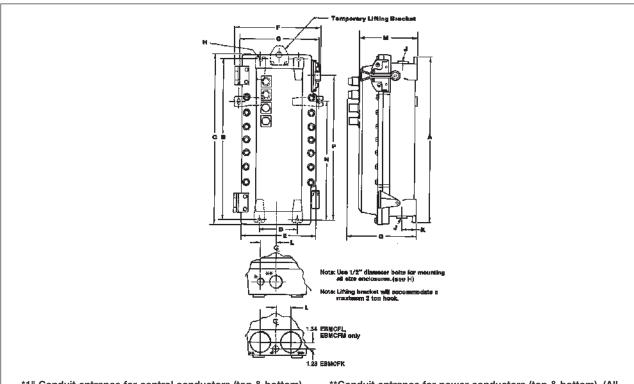
1C EBMC Combination Line Starters and Enclosures

Dimensions (In inches)†

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Dimensions In Inches:



*1" Conduit entrance for control conductors (top & bottom).

**Conduit entrance for power conductors (top & bottom). (All conduit entrances supplied with RE reducer and PLG plug.)

Enclosur Only Cat. #	re Enclosure Size Symbol	A	В	С	D	E	F	G	J** Condu Trade S D&T≎	it Entry Size w/RE	K	L	M	N	0	P
Size 0, 1	FVNR combina	tion line	starte	r§												
EBMCFB	ВВ	25.75	24.75	26.90	6.00	13.03	14.78	12.13	2"	1.5"	3.25	3.13	10.25	_	_	22.00
Size 2 FVNR combination line starter																
EBMCFD	D	28.25	27.25	29.40	6.00	13.03	14.67	12.13	3"	2.5"	3.25	3.13	10.25	_	_	24.50
Size 3 FVNR combination line starter																
EBMCFG	G G	38.13	36.50	39.28	6.00	13.03	14.78	12.13	3"	2.5"	3.25	3.13	10.25	_	_	34.06
EBMCFH	I H	37.50	36.50	38.65	6.00	14.65	16.65	13.54	3"	2.5"	3.25	3.94	11.66	_	_	33.75
Size 4 FV	/NR combination	n line s	tarter													
EBMCFK	(■ K	43.12	41.50	42.65	12.00	17.65	20.46	12.80	(2) 3"	(2) 2.5"	3.25	3.00	10.78	_	_	19.97
EBMCFL	. L	53.47	51.50	53.28	12.00	17.90	20.58	15.00	(2) 4"	(2) 3.5"	4.00	3.50	13.03	41.50	18.40	29.88
Size 5 FVNR combination line starter																
EBMCFM	/ M	64.22	62.50	64.03	12.00	17.90	21.08	15.00	(2) 4"	(2) 3.5"	4.00	3.50	13.03	41.50	18.40	34.46

Orilled & Tapped.

[†]Dimensions are approximate, not for construction purposes. ‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

TTWITH S/52 or 5/33.
\$Use EBMCFD enclosure when LVR1 or S787 options are ordered with Size 0 or 1 combination starters.

For Cutler-Hammer W200 Advantage* starters.

EBMC Combination Line Starters and Enclosures

Single-Speed Non-Reversing with Circuit Breakers 3-Pole 60 hertz, 600VAC Maximum

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Cl. I, Div. 1 & 2, Groups B, C, D Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Ordering Information:

To order an enclosure complete with starter and breaker, insert the manufacturer's symbols in the designated positions of the catalog number. Symbols are shown in the footnotes see page 452.

Select the complete Cat. No. below and specify HP, voltage, frequency, RPM, type and full load ampere rating of motor - or specify ampere rating of heaters.

Enclosures only can be ordered. Select from listings below.

Instantaneous magnetic trip circuit breakers (magnetic circuit interrupters) can be supplied. Consult factory.

For Combination starters with motor circuit protectors for single speed, non-reversing motors see page 453.

Motor Starter			Circuit Breaker			Enclosure	
Max. HP Polyphase	Line Volts	NEMA Size	Amp Rating	Frame Volts	Frame Types	Without Breaker & Starter Cat. #	With Breaker & Starter Cat. # §
2	120	0	30	240	TEB	EBMCFB	EBMC0FB 030232 3613
2	120	0	30	480	TED, EHD	EBMCFB	EBMC0FB 030234 3613
2	120	0	30	600	TED, FDB	EBMCFB	EBMC0FB 030236 3613
3	240	0	20	240	TEB	EBMCFB	EBMC0FB 020232 3623
3	240	0	20	480	TED, EHD	EBMCFB	EBMC0FB 020234 3623
3	240	0	20	600	TED, FDB	EBMCFB	EBMC0FB 020236 3623
5	480	0	15	480	TED, EHD	EBMCFB	EBMC0FB 015234 3643
5	480	0	15	600	TED, FDB	EBMCFB	EBMC0FB 015236 3643
5	600	0	15	600	TED, FDB	EBMCFB	EBMC0FB 015236 3663
5 5 5	240 240 240	1 1 1	30 30 30	240 480 600	TEB TED, EHD TED, FDB	EBMCFB EBMCFB	EBMC1FB 030232 3623 EBMC1FB 030234 3623 EBMC1FB 030236 3623
7½ 7½ 7½ 7½	240 240 240	1 1 1	50 50 50	240 480 600	TEB TED, EHD TED, FDB	EBMCFB EBMCFB	EBMC1FB 050@32 @623 EBMC1FB 050@34 @623 EBMC1FB 050@36 @623
10	480	1	30	480	TED, EHD	EBMCFB	EBMC1FB 030234 3643
10	480	1	30	600	TED, FDB	EBMCFB	EBMC1FB 030236 3643
10	600	1	30	600	TED, FDB	EBMCFB	EBMC1FB 030236 3663
10	240	2	50	240	TEB	EBMCFD	EBMC2FD 050232 3623
10	240	2	50	480	TED, EHD	EBMCFD	EBMC2FD 050234 3623
10	240	2	50	600	TED, FDB	EBMCFD	EBMC2FD 050236 3623
15	240	2	70	240	TEB	EBMCFD	EBMC2FD 070232 3623
15	240	2	70	480	TED, EHD	EBMCFD	EBMC2FD 070234 3623
15	240	2	70	600	TED, FDB	EBMCFD	EBMC2FD 070236 3623
15	480	2	40	480	TED, EHD	EBMCFD	EBMC2FD 040234 3643
15	480	2	40	600	TED, FDB	EBMCFD	EBMC2FD 040236 3643
15	600	2	40	600	TED, FDB	EBMCFD	EBMC2FD 040236 3663
20	480	2	50	480	TED, EHD	EBMCFD	EBMC2FD 050234 3643
20	480	2	50	600	TED, FDB	EBMCFD	EBMC2FD 050236 3643
20	600	2	50	600	TED, FDB	EBMCFD	EBMC2FD 050236 3663
25	480	2	70	480	TED, EHD	EBMCFD	EBMC2FD 070234 3643
25	480	2	70	600	TED, FDB	EBMCFD	EBMC2FD 070236 3643
25	600	2	70	600	TED, FDB	EBMCFD	EBMC2FD 070236 3663
20	240	3	90	240	TEB	EBMCFH	EBMC3FH ①90232 3623
25	240	3	100	240	TEB	EBMCFH	EBMC3FH ①100232 3623
30	240	3	125	480	TED	EBMCFH	EBMC3FH ①125234 3623
30	480	3	70	480	TED, EHD	EBMCFH	EBMC3FH 070234 3643
30	480	3	70	600	TED, FDB	EBMCFH	EBMC3FH 070236 3643
30	600	3	70	600	TED, FDB	EBMCFH	EBMC3FH 070236 3663

123 See page 452 for configurable options.

To include a 120V coil, insert a "1" between second to last and last character in catalog number. 120V coil standard with FTPS option. Ex. EBMC0FB-①30②32-③613 becomes EBMC0FB-①30②32-③613

‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

§Starters are furnished with 3 heaters, when heater ratings are fully specified.

1**C EBMC Combination Line Starters and Enclosures**

Single-Speed Non-Reversing with Circuit Breakers and Fusible Disconnect Switches 3-Pole 60 hertz, 600VAC Maximum

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Motor Starter			Circuit Breaker			Enclosure	Enclosure	
Max. HP Polyphase	Line Volts	NEMA Size	Amp Rating	Frame Volts	Frame Types	Without Breaker & Starter Cat. #	With Breaker & Starter Cat. # §	
40	480	3	90	480	TED, EHD	EBMCFH	EBMC3FH ①90234 3643	
40	480	3	90	600	TED, FDB	EBMCFH	EBMC3FH ①90236 3643	
40	600	3	90	600	TED, FDB	EBMCFH	EBMC3FH ①90236 ③663	
50	480	3	100	480	TED, EHD	EBMCFH	EBMC3FH ①100@34 @643	
50	480	3	100	600	TED, FDB	EBMCFH	EBMC3FH ①100236 3643	
50	600	3	100	600	TED, FDB	EBMCFH	EBMC3FH ①100236 3663	
40	240	4	175	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL ①175②36 ③623	
50	240	4	200	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL ①200236 3623	
60	480	4	125	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL 1125236 3643	
60	600	4	100	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL 1100236 3663	
75	480	4	150	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL ①150236 3643	
75	600	4	125	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL 1125236 3663	
100	480	4	200	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL 1200236 3643	
100	600	4	150	600	TFK / JD, TFJ, JDB	EBMCFL	EBMC4FL ①150236 3663	
125	480	5	300	600	TJK / KD, TJJ, KDB	EBMCFM	EBMC5FM ①300②36 ③643	
150	480	5	400	600	TJK / KD, TJJ, KDB	EBMCFM	EBMC5FM ①400②36 ③643	

Motor Starter		
Max. HP Polyphase	Max. Line Volts	NEMA Size
5	600	0
10	600	1
25	600	2
30	600	3

Fusible Disconnect Switch			_
Amp Rating	Max. Volts	Switch Type	With Disconnect Switch & Starter Cat. #
30	600	DS161R	EBMC0FD WFD30J36 W643
30	600	DS161R	EBMC1FD WFD30J36 W643
60	600	DS262R	EBMC2FD WFD60J36 W643
100	600	DS363R	EBMC3FH WFD100J36 W643

①Circuit Breakers: Manufacturer	Symbol	NEMA Size	Without Switch & Starter Cat. #
Cutler-Hammer	WT	0	EBMCFD FD
General Electric	TT	1	EBMCFD FD
		2	EBMCFD FD
		3	EBMCFH FD

②Select Circuit Breaker Frame Type based on Frame Size, Voltage, and Manufacturer desired:

and Manufacturer desired.							
	100 Amp. Frame and		ame	225 Amp. Frame and			
		mp. Fra		250 Amp. Frame	400 Amp. Frame		
	240V	480V	600V				
Manufacturer	AC	AC	AC	600VAC	600VAC		
Cutler-Hammer	-	EHD	FDB	JD – Interchangeable Trip Unit JDB – Non-Interchangeable Trip Unit	KD – Interchangeable Trip Unit KDB – Non-Interchangeable Trip Unit		
General Electric	TEB	TED	TED	TFK – Interchangeable Trip Unit TFJ – Non-Interchangeable Trip Unit	TJK – Interchangeable Trip Unit TJJ – Non-Interchangeable Trip Unit		

3Motor Starters:

Manufacturer	Symbol
Allen Bradley	AB
Square D	D
General Electric	G
Cutler-Hammer	W

‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators.

††With S752 or S753. §Starters are furnished with 3 heaters, when heater ratings are fully specified.

EBMC Combination Line Starters

Single-Speed Non-Reversing with Motor Circuit Protectors 3-Pole 60 hertz, 600VAC Maximum Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Ordering Information:

Select the complete Catalog No. below and specify HP, voltage, frequency, RPM, type and full load ampere rating of motors or specify ampere rating of heaters.

Motor Starter			MCP	Enclosure	Enclosure
Max. HP		NEMA	Amp	without Starter	with Starter
Polyphase	Volts	Size	Rating	& MCP Cat. #	& MCP Cat. # §
3	240	0	15	EBMCFB	EBMC0FB ①15A②36 ③623
3	480	0	7	EBMCFB	EBMC0FB ①7A236 3643
3	600	0	7	EBMCFB	EBMC0FB ①7A236 3663
5	480	Ö	15	EBMCFB	EBMC0FB ①15A236 ③643
5	600	Õ	15	EBMCFB	EBMC0FB ①15A②36 ③663
7.1	0.40		22	EDITOED	
71/2	240	1	30	EBMCFB	EBMC1FB
71/2	480]	15	EBMCFB	EBMC1FB ①15A②36 ③643
10	480]	30	EBMCFB	EBMC1FB
10	600	1	15	EBMCFB	EBMC1FB ①15A②36 ③663
10	240	2	50	EBMCFD	EBMC2FD ①50A②36 ③623
15	240	2	100	EBMCFD	EBMC2FD ①100A②36 ③623
15	480	2	30	EBMCFD	EBMC2FD ①30A236 3643
20	600	2	30	EBMCFD	EBMC2FD 030A236 3663
25	480	2	50	EBMCFD	EBMC2FD ①50A236 3643
25	600	2	50	EBMCFD	EBMC2FD ①50A②36 ③663
30	240	3	100	EBMCFH	EBMC3FH ①100A236 3623
30	600	3	50	EBMCFH	EBMC3FH ①50A236 ③663
50	480	3	100	EBMCFH	EBMC3FH ①100A②36 ③643
50	600	3	100	EBMCFH	EBMC3FH ①100A236 3663
50	240	4	250*	EBMCFL	EBMC4FL ①250@236 3623
100	480	4	250*	EBMCFL	EBMC4FL ①250@@36 @643
100	600	4	250*	EBMCFL	EBMC4FL ①250@230 ③663
	000	4	250	LDIVIOFE	EDIVIONI E 02309@30 9003
60	240	5	250*	EBMCFM	EBMC5FM ①250④②36 ③623
100	240	5	400	EBMCFM	EBMC5FM ①400④②36 ③623
125	480	5	250*	EBMCFM	EBMC5FM ①250④②36 ③643
150	600	5	250*	EBMCFM	EBMC5FM ①250④②36 ③663
200	480	5	400	EBMCFM	EBMC5FM ①400④②36 ③643
200	600	5	400	EBMCFM	EBMC5FM ①400④②36 ③663

1 Motor Circuit Protectors:

Manufacturer	Symbol
Cutler-Hammer	WP
General Electric	TP
Square D	DP

②Select Motor Circuit Protector Frame Type based on Frame Size and Manufacturer desired:

	150 Amp.	250 Amp.	400 Amp.
	Frame	Frame	Frame
Cutler-Hammer	HMCP	HMCP	HMCP
	(F-Frame)	(J-Frame)	(K-Frame)
General Electric	TEC	TFC	TJC
Square D	FAL	KAL	LAL

3Motor Starters:

Manufacturer	Symbol
Allen Bradley	AB
Square D	D
General Electric	G
Cutler-Hammer	W

‡ Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

*General Electric motor circuit protectors are 225 Amp. Rated.

§Starters are furnished with three heaters when heater ratings are fully specified.

entered to designate the trip range. Consult factory for other trip ranges available.

MCP Amp Rating	Symbol	Trip Range
Cutler-Hammer (WP)		
7	Α	21 to 70
15	Α	45 to 150
30	Α	90 to 300
50	В	150 to 500
100	В	300 to 1000
250	J	1250 to 2500
400	G	1250 to 2500
General Electric (TP)		
7	Α	18 to 90
15	Α	42 to 198
30	Α	90 to 390
50	Α	180 to 660
100	Α	300 to 1308
225	В	1000 to 2250
400	С	1000 to 3300
Square D (DP)		
7	Α	18 to 70
15	Α	50 to 180
30	Α	100 to 350
50	Α	150 to 580
100	Α	300 to 1100
250	Н	1250 to 2500
400	E	1250 to 2500

1C EPC Combination Line Starters and Enclosures

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7CD, 9EFG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Applications:

EPC combination line starters and enclosures are used:

- For across-the-line starting of polyphase
 AC induction motors
- In locations which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- In damp, wet or corrosive locations
- For installation indoors or outdoors at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To provide disconnecting means, motor branch circuit protection, motor running protection, undervoltage protection and remote starting and stopping due to the combination of thermal-magnetic circuit breaker and magnetic motor starter

Features:

- Quick-opening covers less than two turns to remove or install
- Three section design for ease of installation
 Water-shedding construction with female threads on top cover, male threads on
- bottom cover, and top cover skirted
 Specially located stops and locks insure adequate thread engagement and prevent overtightening
- Separate replaceable mounting bracket attached to the rear of the body provides three-point suspension for quick installation and leveling – one keyhole slot at top and two open slots at bottom
- Bodies have two taper-tapped conduit hubs with integral bushings on the top, and two more directly below
- Universal mounting plate and reset mechanism will accommodate any of the motor starters and circuit breakers in catalog listing
- When interior mounting plate is removed, feeder and branch circuit conductors are easily pulled into the wiring chamber. The interior assembly, with breaker and starter attached, is then replaced, final connections made, and covers assembled
- External handle, which operates breaker can be padlocked in either "ON" or "OFF" positions
- Breaker is trip-free of the handle, therefore it will open under short circuit or overload, even if the external handle is locked in the "ON" position
- Furnished with third overload relay as standard

Certifications and Compliances:

NEC/CEC

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 7CD, 9EFG, 12
- UL Standard: 698
- CSA Standards: C22.2 No. 30

Standard Materials:

- Body and cover copper-free aluminum
- Operating handle copper-free aluminum
- Operating shafts stainless steel
- Interior parts sheet steel

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel electrogalvanized with chromate finish

Electrical Rating Range:

- Starters Sizes 0, 1 and 3 inclusive
- Breakers 100 and 150 ampere frame sizes
- Motor Circuit Protectors 100 ampere frame size

Options:

The following special options are available from factory by adding suffix to Cat. No. and many are available in kit form or for field addition to existing units: See page 471 for listing of kits

Description	Suffix
Control circuit transformer	
600/480/240-120 volts, 50 or	
60 hertz (Sizes 0 and 1 – 100–50 VA)	
Fusible – Secondary	FT
Fusible – Primary and secondary	FTPS
Auxiliary Contacts on Starter or Contactor*	
1 N.O./1 N.C	S781
2 N.O./2 N.C.	S782
3 N.O./3 N.C.	S783
Auxiliary Switch on Circuit Breaker or	0.00
Motor Circuit Protector*	
1A/1B (1P2T)	S784
2A/2B (2P2T)	S785
Side bosses drilled and tapped	
same size as standard hubs	
(except 15" dia. – 1" size)	S366
Back boss drilled and tapped	
same size as standard hubs	0007
(except 15" dia. – 1" size) Pushbuttons (heavy duty):	S367
START-STOP	PB3
01/111 0101	rbs



Assembled unit

Separated view showing major components

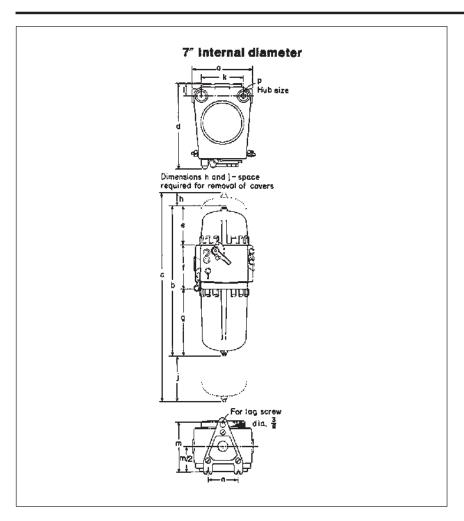
Compone	1110
Description	Suffix
Selector switches (standard duty):	
ON-OFF	RR2
HAND-OFF-AUTO	RR3
Pilot lights:	
Red, 120 volt	J1
Green, 120 volt	J3
LED pilot lights, in place of standard	
incandescent lamps	LED
Pilot light transformers:	
240 volt†	T2
480 volt†	T4
600 volt†	T5
Space heaters:	
120 volt	R11
240 volt	R22
480 volt	R44
Automatic reset overload relay	S1
Less overload relays (lighting	01
contactor)	CL
Less overload relays (motor contactor)	CM
Separate AC control circuit	
Insulated neutral with 2 connectors	opecity
(50, 100 & 225 amp)	S146
Grounded neutral stud with 3	0140
connectors (50, 100 & 225 amp)	S178
Pilot light holes drilled, tapped and	0110
plugged for future addition of pilot	
lights	
One hole	S541
Two holes	S542
Standard Breather (Class I, Groups C,	0042
D, Class II, Groups E, F, G, Class III)	S219
Standard Drain (Class I, Groups C, D,	0210
Class II, Groups E, F, G, Class III)	S198
Standard Breather and Drain (Class I,	0.00
Groups C, D, Class II, Groups E, F, G,	
Class III)	S198V
Universal Breather - Drain (Class I,	01304
Groups C, D, Class II, Groups F, G)	S454±
(2) Universal Breather – Drains (Class I,	3-10-7+
Groups C, D, Class II, Groups F, G)	S454V+
Less heaters	0
	U

*Application is limited by starter, contactor, circuit breaker or motor circuit protector design – Consult Factory † Required for pilot lights on other than 120 volt control circuits. One required for each lamp. ‡ Not suitable for NEMA 4.

EPC Combination Line Starters and **Enclosures**

Dimensions* (In Inches)

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight



Single-Speed Non-Reversing Sizes 0, 1 and 3 starters

	EPC87	EPC87–FTPS or EPC87–FT	
Int. Dia.	7"	7"	
	Dimensions	Dimensions†	
a	10⁵/8	105/8	
b	261/16	311/16	
С	3511/16	4711/16	
d	1411/16	1411/16	
е	63/4	113/4	
f	711/16	711/16	
g	115/ ₈	115/₃	
h	2	9	
j	7 ⁵ / ₈	7 ⁵ / ₈	
k	7³/ ₈	7³/8	
I	21/16	21/16	
m	93/8	93//8	
n	51/4	51/4	
р	11/4	11/4	

*Dimensions are approximate, not for construction purposes. †For units with Control Circuit Transformer (suffix FT or FTPS).

Single Speed, Non-Reversing with Circuit Breakers 3-Pole 60 hertz, 600 VAC Maximum Cl. I, Div. 1 & 2, Groups C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG, 12

Dust-Ignitionproof Raintight Wet Locations Watertight

Ordering Information:

To order an enclosure complete with starter and breaker, insert the manufacturer's symbols in the designated positions of the catalog number. Symbols are shown in the footnotes below.

Select the complete Cat. No. below and specify HP, voltage, frequency, RPM, type and full load ampere rating of motor - or specify ampere rating of heaters.

Enclosures only can be ordered. Select from listings below.

Instantaneous magnetic trip circuit breakers (magnetic circuit interrupters) can be supplied. Consult factory.

For combination starters with motor circuit protectors or single speed, non-reversing motors see page 457.

Motor Starter		Circuit B	reaker	Enclosure				
Max. HP Polyphase	Volts	NEMA Size	Amp Rating	Frame	Hub Size in.	Int. Dia. in.	Without Starter & Circuit Breaker Cat. #	With Starter & Circuit Breaker Cat. # §
2	120	0	30	EB	11/4	7	EPC87	EPC870 ①30ED ②613
3	240	0	20	EHD	11/4	7	EPC87	EPC870 ①20EHD ②623
3	480	0	15	EHD	11/4	7	EPC87	EPC870 ①15EHD ②643
3	480	0	15	FDB	11/4	7	EPC87	EPC870 ①15FD ②643
3	600	0	15	FD	11/4	7	EPC87	EPC870 ①15FD ②653
5	240	1	30	EHD	11/4	7	EPC87	EPC871 ①30EHD ②623
5	480	0	15	EHD	11/4	7	EPC87	EPC870 115EHD 2643
5	480	0	15	FDB	11/4	7	EPC87	EPC870 ①15FD ②643
5	600	0	15	FDB	11/4	7	EPC87	EPC870 ①15FD ②653
71/2	240	1	50	EHD	11/4	7	EPC87	EPC871 ①50EHD ②623
71/2	480	1	30	EHD	11/4	7	EPC87	EPC871 ①30EHD ②643
71/2	480	1	30	FDB	11/4	7	EPC87	EPC871 ①30FD ②643
71/2	600	1	30	FDB	11/4	7	EPC87	EPC871 ①30FD ②653
10	480	1	30	EHD	11/4	7	EPC87	EPC871 ①30EHD ②643
10	480	1	30	FDB	11/4	7	EPC87	EPC871 ①30FD ②643
10	600	1	30	FDB	11/4	7	EPC87	EPC871 ①30FD ②653

①Circuit Breakers:

		Frames 100/150AMP				
Manufacturer	Symbol	240V	480 V	600V		
General Electric	TT	TEB	TED*	TED*		
Cutler-Hammer	WT	EHD	EHD	FB, FDB		
*Specify Voltage						

[§] Starters are furnished with three heaters when heater ratings are fully specified.

@Motor Starters:

Manufacturer	Symbol
Allen-Bradley	AB
General Electric	G
Square D	D
Cutler-Hammer	W

1C

EPC Combination Line Starters

Single-Speed Non-Reversing with Motor Circuit Protectors 3-Pole 60 hertz, 600 VAC Maximum

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Ordering Information:

Select the complete Catalog No. below and specify HP, voltage, frequency, RPM, type and full load ampere rating of motors or specify ampere rating of heaters.

Current limiters may be ordered by specification*.

Motor Start	ter		Enclosure with Motor Circuit Protector and Starter §			
Max. HP Polyphase	Volts	NEMA Size	Amp Rating	Cat. #		
3	240	0	15	EPC870 ①15HMCP ②623		
3	480	0	7	EPC870 ①7HMCP ②643		
3	600	0	7	EPC870 ①7HMCP ②653		
5	480	0	15	EPC870 ①15HMCP ②643		
5	600	0	15	EPC870 ①15HMCP ②653		
71/2	240	1	30	EPC871 ①30HMCP ②623		
71/2	480	1	15	EPC871 ①15HMCP ②643		
10	600	1	15	EPC871 ①15HMCP ②653		
10	480	1	30	EPC871 ①30HMCP ②643		
①Motor Circ	uit Prot	ectors				
Manufacture	er		S	ymbol		
General Elec	tric		Т	P		
Square D			D	P		
Cutler-Hamn	ner		V	/P		
@Motor Star	ters:					
Manufacture	er		s	ymbol		
Allen-Bradle				В		
General Elec	tric		G	·		
Square D)		
Cutler-Hamn	ner		V	<i>l</i>		

^{*}General Electric or Cutler-Hammer MCPs only.

[§] Starters are furnished with three heaters when heater ratings are fully specified.

1C NMC Combination Line Starters and Enclosures

600VAC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Applications:

 NMC combination magnetic line starters are for use in across-the-line motor starting, motor disconnect, motor and line protection and start-stop operations.

Features:

- Enclosures are made of Krydon® high impact strength fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat.
- Unitized, strong and durable enclosure construction provides longer service life for equipment.
- Provided with top and bottom mounting feet.
- Enclosure has hinged access door which opens 160° for easy wiring and maintenance. Three screws for door frame are hidden behind access door.
- Access door may be padlocked to prevent unauthorized access.

Certifications and Compliances:

• NEMA/EEMAC: 3, 4X and 12

Electrical Rating Ranges:

- 3-pole, 60 hertz, 600 VAC max.
- Starters sizes 0, 1, 2, 3, 4
- Breakers 100, 150, 225 and 250 amp frame
- Switches 30, 60, 100 amp
- Motor circuit protectors 15, 30, 50, 100, 150 amp



Combination line starter with optional START-STOP pushbuttons – open view

Ontional



Combination line starter with optional START-STOP pushbuttons – closed view

Options:	
Description	Suffix
Control circuit transformer	
480/240-120 volts, 50 or	
60 hertz, (Sizes 0 and 1 – 50VA,	
Size 2 – 100VA, Size 3 – 150VA,	
Size 4 – 300VA)	
Fusible	
Secondary	FT
Primary and secondary	
Auxiliary Contact on Starter	•
or Contactor*	
1NO/1NC	S781
2 NO/2 NC	S782
3 NO/3 NC	S783
Auxiliary Switch on Circuit	
Breaker or Motor	
Circuit Protector*	
1A/1B	S784
2A/2B	S785
Time delay low voltage release	
for 3-wire control with 2, 4 or 6-	
second adjustment. For single-	
speed, non-reversing starters only.	
Control circuit voltage:	
120 volt, 60 hertz	
240 volt, 60 hertz	LVR2†
480 volt, 60 hertz	LVR4†

Description	Suffix
•	Sullix
Pilot lights, 120 V primary –	
specify other primary voltages	
as required:	14
Red pilot lightGreen pilot light	J1
LED pilot lights in place of	J3
standard incandescent pilot lamps	
Pushbutton (heavy duty,	LED
uses two device holes):	
START-STOP	DD40
Selector Switch (heavy duty)	PB13
ON-OFF	RR17
HAND-OFF-AUTO	RR18
JOG-RUN-OFF	RR19
Padlock attachment for:	111113
Pushbutton	S708
Automatic reset overload relay	S1
Less overload relays (contactor)	C
Separate AC control circuit	Specify
Insulated, groundable type terminal	.,
block for grounded or ungrounded	
neutral can be supplied	S618
Hubs (see "NOTE ON HUBS") -	
see page 677	
Grounding plate or bushing -	
see page 677	
*Application limited by Size 5 starter, contactor of breaker design – consult factory.	or circuit

†Option not available on NMC1024B.

NOTE ON HUBS: The following number and sizes of hubs (not mounted) are included when combination starters are ordered complete. If enclosures only are ordered, hubs must be ordered separately (see "Options").

Starter Size	Number Included	Hub Size
0	3	3/4
1	1 2	³/ ₄ 1
2	1 2	³ / ₄ 1 ¹ / ₂
3	1 2	³/ ₄ 2
4	1 2	3/ ₄ 2 ¹ / ₂

NMC Combination Line Starters and Enclosures

Single-Speed, Non-Reversing 600VAC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Ordering Information - With Circuit Breakers

To order an enclosure complete with starter and breaker, insert the manufacturer's symbols in the designated positions of the catalog number. Symbols are shown in the footnotes.

Select the complete Cat. No. below and specify HP, voltage, frequency, RPM, type and full load ampere rating of motor - or specify ampere rating of heaters. Starters are furnished with three heaters.

Enclosures only can be ordered. Select from listings below. Specific reference table is shown in the listings below. Instantaneous magnetic trip circuit breakers (magnetic circuit interrupters) can be supplied.

Motor Starte			Circuit Bre		Enclosure	
Max. HP Polyphase	Volts (A-C)	NEMA Size	Trip Setting Amps	Frame	With Starter & Circuit Breaker Cat. #	Without Starter & Circuit Breaker Cat. #
2	120	0	30	EB	NMC1024B 030EB @6130	NMC1024B
2	240	0	15	EB	NMC1024B 015EB @6230	NMC1024B
3	240	0	20	EB	NMC1024B ①20EB ②6230	NMC1024B
5	240	1	30	EB	NMC1024B	NMC1024B
5	480	0	15	EHD		NMC1024B
5	600	0	15	FDB		NMC1024B
7½	240	1	50	EB	NMC1024B	NMC1024B
7½	480	1	20	EHD		NMC1024B
7½	600	1	20	FDB		NMC1024B
10	240	2	60	EB	NMC1024B2 ①60EB @6232	NMC1024B2
10	480	1	30	EHD	NMC1024B ①30EHB @6431	NMC1024B
10	600	1	30	FDB	NMC1024B ①30FB @6531	NMC1024B
15	240	2	80	EB	NMC1024B2 ①80EB ②6232	NMC1024B2
15	480	2	40	EHD	NMC1024B2 ①40EHB ②6432	NMC1024B2
15	600	1	40	FDB	NMC1024B ①40FB ②6531	NMC1024B
20	240	3	80	EB	NMC1426B	NMC1426B
20	480	2	60	EHD		NMC1024B2
20	600	2	50	FDB		NMC1024B2
25	240	3	80	EB	NMC1426B	NMC1426B
25	480	2	70	EHD		NMC1024B2
25	600	2	60	FDB		NMC1024B2
30	240	4	125	JDB‡	NMC2426B ①125JB ②6234	NMC2426B
30	480	3	80	EHD	NMC1426B ①80EHB ②6433	NMC1426B
30	600	3	60	FDB	NMC1426B ①60FB ②6533	NMC1426B
40	240	4	150	JDB‡	NMC2426B ①150JB ②6234	NMC2426B
40	480	3	80	EHD	NMC1426B ①80EHB ②6433	NMC1426B
40	600	3	80	FDB	NMC1426B ①80FB ②6533	NMC1426B
50	240	4	200	JDB‡	NMC2426B ①200JB ②6234	NMC2426B
50	480	3	100	EHD	NMC1426B ①100EHB ②6433	NMC1426B
50	600	3	100	FDB	NMC1426B ①100FB ②6533	NMC1426B
60	480	4	125	JDB‡	NMC2426B ①125JB ②6434	NMC2426B
60	600	4	100	JDB‡	NMC2426B ①100JB ②6534	NMC2426B
75	480	4 4	150	JDB‡	NMC2426B ①150JB ②6434	NMC2426B
75	600		125	JDB‡	NMC2426B ①125JB ②6534	NMC2426B
100	480	4	175	JDB‡	NMC2426B ①175JB @6434	NMC2426B
100	600	4	150	JDB‡	NMC2426B ①150JB @6534	NMC2426B

①Circuit Breakers:

@Motor Starters:

Manufacturer	Symbol	Frames 100/150 240V		600V	225/250A 600V	Manufacturer	Symbol	
General Electric	TT	TEB	TED§	TED§	TFJ	Allen-Bradley	AB	
Square D	DT	FAL§	FAL§	FAL§	KAL	General Electric	G	
Cutler-Hammer	WT	EB	EHB, EHD	FB, FDB	JB, JDB	Square D	D	
						Cutler-Hammer	W	
						Information on other starter manufactu	rers on request.	

NOTE ON HUBS: See page 458.

§Specify voltage. ‡Formerly "JB"

NMC Combination Line Starters 1C and Enclosures

Single-Speed, Non-Reversing 600VAC Heavy Duty

Corrosion-Resistant **Dust-tight** Watertight Weatherproof NEMA 3, 4X, 12

Ordering Information - With Motor Circuit Protector

Motor Starter	'			Enclosure	
Max. HP	Volts	NEMA	MCP Trip	With Starter &	Without Starter &
Polyphase	(AC)	Size	Setting Amps	MCP Cat. #§	MCP Cat. #
3	240	0	15	NMC1024B ①15MCP ②6230	NMC1024B
5	480	0	15	NMC1024B ①15MCP ②6430	NMC1024B
5	600	0	15	NMC1024B ①15MCP ②6530	NMC1024B
71/2	240	1	30	NMC1024B ①30MCP ②6231	NMC1024B
10	480	1	30	NMC1024B ①30MCP ②6431	NMC1024B
10	600	1	30	NMC1024B ①30MCP ②6531	NMC1024B
15	240	2	50	NMC1024B2 ①50MCP ②6232	NMC1024B2
25	480	2	50	NMC1024B2 ①50MCP ②6432	NMC1024B2
25	600	2	50	NMC1024B2 ①50MCP ②6532	NMC1024B2
30	240	3	100	NMC1426B ①100MCP ②6233	NMC1426B
50	480	3	100	NMC1426B ①100MCP ②6433	NMC1426B
50	600	3	100	NMC1426B ①100MCP ②6533	NMC1426B
50	240	4	150	NMC2426P ①150MCP ②6234	NMC2426P
100	480	4	150	NMC2426P ①150MCP ②6434	NMC2426P
100	600	4	150	NMC2426P ①150MCP ②6534	NMC2426P
①Motor Circuit	Protectors:			@Motor Starters:	

Manufacturer	Symbol		
General Electric	G		
Cutler-Hammer	W		

NOTE ON HUBS: See page 458.

§ With motor circuit protector only. For motor circuit protector with current limiter – information on request.

Manufacturer	Зуптрог
Allen-Bradley	AB
Square D	D
General Electric	G
Cutler-Hammer	W

Ordering Information - With Non-fusible Disconnect Switch

To order an enclosure complete with disconnect switch, insert the manufacturer's symbol in the designated positions of the catalog number. Symbols are shown in the footnotes.

Enclosures only can be ordered. Select from listings below.

Class 9422

Type DS

Motor Starter			Non-fusible Disconnect Switch	Enclosure	
Max. HP Polyphase	Volts (AC)	NEMA Size	Switch Size-Amps	With Starter & Disconnect Switch Cat. #	Without Starter & Disconnect Switch Cat. #
3	240	0	30	NMC1024D ①30 ②6230	NMC1024D ①
5	480	0	30	NMC1024D ①30 ②6430	NMC1024D ①
5	600	0	30	NMC1024D ①30 ②6530	NMC1024D ①
71/2	240	1	30	NMC1024D ①30 ②6231	NMC1024D ①
10	480	1	30	NMC1024D ①30 ②6431	NMC1024D ①
10	600	1	30	NMC1024D ①30 ②6531	NMC1024D ①
15	240	2	60	NMC1426D ①60 ②6232	NMC1426D ①
25	480	2	60	NMC1426D ①60 ②6432	NMC1426D ①
25	600	2	60	NMC1426D ①60 ②6532	NMC1426D ①
30	240	3	100	NMC2426D ①100 ②6233	NMC2426D ①
50	480	3	100	NMC2426D 1100 26433	NMC2426D ①
50	600	3	100	NMC2426D ①100 ②6533	NMC2426D ①
①Disconnect Sw	ritches:			@Motor Starters:	
Manufacturer	Symbol	Switch	Туре	Manufacturer	Symbol
General Electric	G	Type QI	ИW	Allen-Bradley	AB

NOTE ON HUBS: See page 458.

Square D General Electric Cutler-Hammer Information on other starter manufacturers on request.

Square D

Cutler-Hammer

NMC Combination Line Starters and Enclosures

Single-Speed, Non-Reversing 600VAC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Ordering Information - With Fusible Disconnect Switch

Motor Starte	Volts	NEMA	Fusible Disconnect Switch Switch Size- Fuse Clip		Enclosure With Starter &	Without Starter &
Polyphase	AC	Size	Amps	Rating-Amps	Disconnect Switch Cat. #■	Disconnect Switch Cat. #
3	240	0	30	30	NMC1024D ①3030 ②6230	NMC1024D ①
5	480	0	30	30	NMC1024D ①3030 ②6430	NMC1024D ①
5	600	0	30	30	NMC1024D ①3030 ②6530	NMC1024D ①
71/2	240	1	30	30	NMC1024D ①3030 ②6231	NMC1024D ①
71/2	240	1	30	60	NMC1024D ①3060 ②6231	NMC1024D ①
10	480	1	30	30	NMC1024D ①3030 ②6431	NMC1024D ①
10	480	1	30	60	NMC1024D ①3060 ②6431	NMC1024D ①
10	600	1	30	30	NMC1024D ①3030 ②6531	NMC1024D ①
10	600	1	30	60	NMC1024D ①3060 ②6531	NMC1024D ①
15	240	2	60	60	NMC1426D ①6060 ②6232	NMC1426D ①
15	240	2	60	100	NMC1426D ①6010 ②6232	NMC1426D ①
25	480	2	60	60	NMC1426D ①6060 ②6432	NMC1426D ①
25	480	2	60	100	NMC1426D ①6010 ②6432	NMC1426D ①
25	600	2	60	60	NMC1426D ①6060 ②6532	NMC1426D ①
25	600	2	60	100	NMC1426D ①6010 ②6532	NMC1426D ①
30	240	3	100	100	NMC2426D ①1010 ②6233	NMC2426D ①
50	480	3	100	100	NMC2426D ①1010 ②6433	NMC2426D ①
50	480	3	100	200	NMC2426D ①1020 ②6433	NMC2426D ①
50	600	3	100	100	NMC2426D ①1010 ②6533	NMC2426D ①
Disconnect :	Switches:				@Motor Starters:	
		Switch	Туре	Symbol	Manufacturer	Symbol
General Electr	ric	Type Q	MW	G	Allen-Bradley	AB
Square D		Class 9	422	D	Square D	D
Cutler-Hamme	er	Type D	S	W	General Electric	G
		21			Cutler-Hammer	W

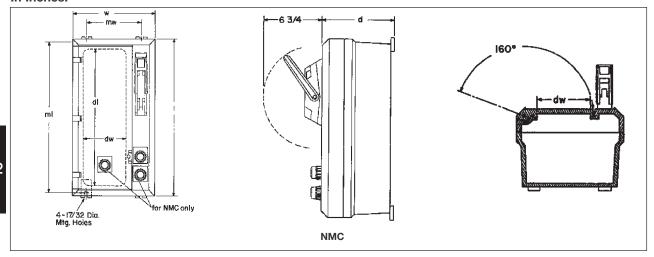
NOTE ON HUBS: See page 458.

Cutler-Hammer
Information on other starter manufacturers on request.

[■]Fuse clips are arranged for Class H fuses and field modifiable for Class J fuses. For Class R fuses, consult Eaton's Crouse-Hinds.

1C NMC Combination Line Starters and Enclosures

Dimensions In Inches:



	Outside D	Outside Dimensions			Mounting Dimensions		Door Opening Dimensions	
Cat. #	I	w	d	mw	ml	dl	dw	
NMC1024	2513/32	1113/32	823/32	77/8	253/8	227/8	511/16	
NMC1426	2713/32	1513/32	923/32	117/8	271/4	2311/16	911/16	
NMC2426	2713/32	2513/32	9 ²³ / ₃₂	213/4	271/4	2311/16	1911/16	

Motor Starters Hazardous and **Non-hazardous**

Description	Page No.
Application/Selection	see page 464
Magnetic Line Starters & Enclosures	_
Single speed, non-reversing	
EBMS Series	see pages 465-466
EPC Series	see pages 469-470
NMG Series	see pages 488-489
Manual Line Starters & Enclosures	
EMN NEMA Series	see pages 472-473
EMN IEC Series	see page 474
EMN Series	see page 475
NMN Series	see page 487
Manual Motor Starting Switches & Enclosures	
GUSC Series	see page 476
EFD Series	see page 477
MC Series	see pages 483-484
EDS Series	see pages 478-480
GHG 635 Series	see pages 481-482
NSSC / NFSC	see page 485
Special Feature Kits	
For EPC Series	see page 471

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Application and Selection Ouick Selector Chart

Applications:

Line starters are housed in enclosures suitable for specific environments, and are used for:

- · Across-the-line starting of motors
- Motor running protection
- Undervoltage protection
- Remote or manual starting and stopping

Selection:

Considerations for selection of proper enclosure:

- The environment of the enclosure location in accordance with NEC/CEC and NEMA/EEMAC requirements
- The characteristics of the starter to be enclosed
- See "Quick-Selector" below for guidance

Options:

Many options are available on:

- Material and finishes where special atmospheric conditions prevail
- Special features for specific applications. See individual listings for available options, many of which are available in kit form for field addition to existing units.

Quick Selector Chart

Enclosures	for Starters						
Enclosures	NEC/CEC – Hazardous Area Compliance	NEMA/ EEMAC Enclosure Type	Starter Type	NEMA/EEMAC Size Starters Single Speed Non-reversing	Motor Phase and Type	Manufacturers Equipment Enclosed - Starter	Cover Type
MC	None	3, 4, 12	Manual		Single-AC	Cutler-Hammer	Gasketed
EPC	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 4, 7CD, 9EFG, 12	Magnetic	0-2	Poly-AC	Allen-Bradley Cutler-Hammer G.E. Square D	Threaded
EBMS	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 4, 7BCD, 9EFG, 12	Magnetic	0-5	Poly-AC	Allen-Bradley G.E. Square D Cutler-Hammer	Bolted/ Ground Joint/ Gasketed
EMN NEMA	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1 & 2, Groups E, F, G Cl. III	3, 4, 4X†, 7(CD), 9(EFG)	Manual	0-1P	DC and Single and Poly-AC	G.E. Square D	Bolted
EMN IEC	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1 & 2, Groups E, F, G Cl. III	3, 4, 4X†, 7(CD), 9(EFG)	Manual		Single and Poly-AC	Cutler-Hammer	Bolted
EMN	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7CD, 9EFG, 12	Manual	0-1P	Single and Poly-AC	Allen-Bradley Cutler-Hammer G.E. Square D	Bolted/ Ground Joint
GUSC	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7CD, 9EFG, 12	Manual	3, 71/2, 15, 20	Single-AC		Threaded
EDS, EDSC‡	Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7CD, 9EFG, 12	Manual		DC and Single AC	Allen-Bradley G.E. Cutler-Hammer	Bolted/ Ground Joint
EFD	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7BCD, 9EFG, 12	Manual		DC and Single and Poly-AC	G.E. Square D	Bolted/ Ground Joint
NSSC / NFSC	None	3, 4X, 12	Manual		DC and Single and Poly-AC	Allen-Bradley G.E. Square D Cutler-Hammer	Screw and gasket
NMN	None	3, 4X, 12	Manual	0-1P	Single AC	Allen-Bradley G.E. Square D	Screw and gasket
NMG	None	3, 4X, 12	Manual	0-4	Poly-AC	Allen-Bradley G.E. Square D Cutler-Hammer Westinghouse	Hinged, screw and gasket

*Check listings for Group B suitability. †NEMA 4X rated when ordered with epoxy powder coating. ‡For factory sealed units see pages 536–537.

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EBMS Magnetic Line Starters and Enclosures

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof Dust-Ignitionproof Raintight Wet Locations NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Applications:

Spectrum™ EBM hinged cover motor control enclosures are used:

- For general motor control indoors or outdoors in damp, wet, dirty, dusty hazardous locations, without the need for a protective shelter.
- In areas where frequent washdowns are necessary or where heavy rain or water spray is prevalent.
- · For across-the-line starting, stopping, speed changing and reversing of polyphase AC induction motors.
- To provide motor overload and undervoltage protection.
- On switchracks or other assemblies where it's desired that motor control be centrally located.

Features:

- · Rugged, corrosion resistant, cast copper-free aluminum construction (less than 0.4 of 1%).
- · Motor starter operating handle located through the right side wall of the body permits visual confirmation of correct component assembly and operation.
- Total compliance to the wiring end room requirements of the National Electrical Code® and Canadian Electrical Code.
- · Semi-clamshell enclosure design, with an external flanged ground joint between body and cover makes interior components more accessible.
- Minimum enclosure-to-enclosure spacing with little interference between the opened cover and an adjacent enclosure.
- · Copper-free aluminum hinges allow the cover to swing well out of the way.
- Stainless steel, quick release, captive, hex head cover bolts. Stainless steel springs provide clear indication cover bolts are fully retracted from body.
- · Versatile, internal operating mechanisms allow for field adjustment to accommodate popular manufacturers' starters.
- Simple, straightforward installation of starter on pre-drilled mounting plate within enclosure. Mounting plate also field removable.
- · Neoprene cover gasket permanently attached to the cover seals out moisture.
- · Bodies have top and bottom drilled and tapped entrances for power conduits plus one at the bottom for control conduit. Removable reducers are supplied as standard, to accommodate smaller size conduits. All conduit entrances are plugged.
- Tap-on mounting feet.
- Optional EMPS control devices may be added to enclosure cover.
- Steel bracket for lifting larger enclosures during installation supplied as standard.



Spectrum EBM motor control enclosures accommodate popular makes of starters.

Certifications and Compliances:

NEC/CEC

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standards: UL1203
- NEMA: 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12
- CSA Standard: C22.2 No. 30

Standard Materials:

- Body and cover copper-free aluminum
- Operating handle copper-free aluminum
- · Operating shaft and bushing stainless steel
- Interior parts sheet steel, electrogalvanized
- · Cover bolts, washers and retractile springs stainless steel

Electrical Rating Range:

Motor starters – NEMA/EEMAC sizes 0–5

2C

EBMS Magnetic Line Starters and Enclosures

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Options:

The following options are available from the factory by adding suffix to catalog number. Suffixes are added alphanumerically.

Catalog Number System Example

EBMS1FB-①-W6413-②

- ① Options in this position are additions to the enclosures and should be listed alphanumerically.
- ② Options in this position are modifications to the motor starter and should be listed alphanumerically.

Description	on in Cat. #	Suffix
Less Overload Relays (lighting contactor)	1	CL
Less Overload Relays (motor contactor)	. ①	CM
Control Circuit Transformer, 100VA for NEMA/EEMAC sizes 0–2, 600/480/240–120, 50 / 60 Hertz, with		
provision for fusing both primary leads and one secondary lead (fuses not included)	1	FTPS100
Control Circuit Transformer, 200VA for NEMA/EEMAC size 3, 600/480/240–120, 50 / 60 Hertz, with		
provision for fusing both primary leads and one secondary lead (fuses not included)	1	FTPS200
Control Circuit Transformer, 300VA for NEMA/EEMAC size 4, 5 600/480/240–120, 50 / 60 Hertz, with		
provision for fusing both primary leads and one secondary lead (fuses not included)	1	FTPS300
Pilot Light, 120VAC, Red Jewel, w/blank indicating plate	. ①	J1③
Pilot Light, 120VAC, Green Jewel, w/blank indicating plate		J3 ③
Less Heaters in Starter Overload Relay		0
Start-Stop Pushbuttons (requires 2 spaces)	. ①	PB233‡
On-Off Selector Switch	. ①	RR23‡
Hand-Off-Auto Selector Switch	. ①	RR33‡
Space Heater, 120 Volt, 25 Watts	. ①	R11
Space Heater, 240 Volt, 25 Watts	. ①	R22
Space Heater, 480 Volt, 25 Watts		R44
Automatic Reset Overload Relay		S1
Std. Drain, Class I, B, C&D Class II, EF&G Class III	-	S756‡
Std. Breather & Drain, Class I, B, C&D Class II, EF&G Class III	. ①	S756V‡
External Epoxy Finish	. ①	S752
Internal and External Epoxy Finish	. ①	S753
Additional control contacts, N.O. or N.C. – for single speed, non-reversing starters only (number limited by design of		
starter. Details on specific makes and sizes on request.)		
Aux. Contacts on starter 1 N.O. & 1 N.C.		S781
Aux. Contacts on starter 2 N.O. & 2 C	-	S782
Aux. Contacts on starter 3 N.O. & 3 N.C.		S783
12 Point Term. Block – 30 Amp, 300V		S786
General Purpose Control Relay, 4 Pole N.O., contacts rated 10A @ 600V, coil 120VAC, 50–60 Hz	(1)	S787*

‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators.

Example:

	Enclosure	Enclosure for	
Without	Cat. #	S787	
Starter	EBMSFA	EBMSFB	

[†] Third S752 or S753.

③ When specifying non-standard markings on any one of the following options with Spectrum™ EBM Motor Controls (J1, J3, PB23, RR2, RR3) it is necessary to order DSL Legend Plates for identification and marking of the device(s) being used. See page 449 for DSL Legend Plate listings.

* Use of this option with NEMA/EEMAC Size 0 or 1 starters necessitates a larger enclosure. Use "8" size enclosures.

EBMS Magnetic Line Starters and Enclosures

Single-Speed Non-Reversing 3-Pole 60 hertz, 600 VAC Maximum Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Ordering Information:

- To order an enclosure complete with motor starter, insert the manufacturer's symbol in the designated position (see ‡) of the catalog number. Symbols are shown in the footnotes.
- Also specify HP, voltage, frequency, RPM, type and full load ampere rating of motor or specify ampere rating of heaters.
- Enclosures without starters may be ordered. Select from the listings below.

EBMS Series Enclosures for Magnetic Line Starters Single Speed Non-Reversing

Motor Starter			Enclosure	
Max. HP Polyphase	Volts	NEMA Size	Without Starter Cat. #	With Starter Cat. # §
2	120	0	EBMSFA	EBMS0FA ①613
3	120	1	EBMSFA	EBMS1FA ①613
3	240	0	EBMSFA	EBMS0FA ①623
5	480	0	EBMSFA	EBMS0FA ①643
5	600	0	EBMSFA	EBMS0FA ①663
71/2	120	2	EBMSFB	EBMS2FB ①613
71/2	240	1	EBMSFA	EBMS1FA ①623
10	480	1	EBMSFA	EBMS1FA ①643
10	600	1	EBMSFA	EBMS1FA ①663
15	120	3	EBMSFH	EBMS3FH ①613
15	240	2	EBMSFB	EBMS2FB ①623
25	480	2	EBMSFB	EBMS2FB ①643
25	600	2	EBMSFB	EBMS2FB ①663
30	240	3	EBMSFH	EBMS3FH ①623
50	480	3	EBMSFH	EBMS3FH ①643
50	600	3	EBMSFH	EBMS3FH ①663
50	240	4	EBMSFH	EBMS4FH ①623
100	480	4	EBMSFH	EBMS4FH ①643
100	600	4	EBMSFH	EBMS4FH ①663
100	240	5	EBMSFL	EBMS5FL ①623
200	480	5	EBMSFL	EBMS5FL ①643
200	600	5	EBMSFL	EBMS5FL ①663

‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

§ Motor starters are furnished with three heaters when heater ratings are fully specified.



EBMS Series starter enclosures are available with magnetic line starters. NEMA sizes 0-5.

①Motor starters:	
Manufacturer	Symbol
Allen Bradley	AB
Square D	D
General Electric	G
Cutler-Hammer	\//

Dimensions (In Inches)

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Temporary Lifting Bracket 0 0 0 20 Note: Use 1/2" dismeter bolt for all size enclosures, (see H) Note: Lifting bracket will accommoding to hook. 1.23 EBMSPK only

Dimensions are approximate, not for construction purposes.

Single-Speed Non-Reversing Sizes 0, 1, 2, 3, 4 and 5 Starters

Enclosure Only Cat. #	Enclosure Size Symbol	A	В	С	D	E	F	G	J** Condui Trade S D&T■		K	L	М	N	0
Size 0,1 FVI EBMSFA	NR Starter§ A	18.25	17.25	19.00	6.00	12.63	14.38	12.13	2"	1.5"	3.25	3.13	10.25	_	_
Size 2 FVNF EBMSFB	R Starter B	25.75	24.75	26.50	6.00	12.63	14.38	12.13	2"	1.5"	3.25	3.13	10.25	_	_
Size 3,4 FVN EBMSFD† EBMSFH	NR Starter D H	28.25 37.50	27.25 36.50	29.00 38.25	6.00 6.00	12.63 14.25	14.06 16.00	12.13 13.54	3" 3"	2.5" 2.5"	3.25 3.25	3.13 3.94	10.25 11.66	_	
Size 5 FVNF EBMSFK† EBMSFL	R Starter K L	43.12 53.25	41.50 51.50	42.25 52.88	12.00 12.00	17.25 17.50	19.88 20.18	11.00 15.00	(2) 3" (2) 4"	(2) 2.5" (2) 3.5"	3.25 4.00	3.00 3.50	10.78 13.03	_ 41.50	_ 18.00

± Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

[§]Use EBMSFB enclosure when S787 option is ordered with size 0 or 1 starter.

1 Drilled & Tapped conduit entry for control conductors supplied with PLG plug (top & bottom)

**Conduit entrance for power conductors (top and bottom). (All conduit entrances supplied with RE reducer and PLG plug.)

[†]For Cutler-Hammer W200 Advantage® starters. ■Drilled & Tapped.

EPC Magnetic Line Starters and **Enclosures**

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Applications:

EPC magnetic line starters and enclosures are used:

- For across-the-line starting of polyphase AC induction motors
- In locations made hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- . In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To provide motor running protection, undervoltage protection, and remote starting and stopping

Features:

- Quick-opening covers less than two turns to remove or install
- Three section design for ease of installation
- Water-shedding construction with female threads on top cover, male threads on bottom cover, and top cover skirted
- Specially located stops and locks ensure adequate thread engagement and prevent overtightening
- Separate replaceable mounting bracket attached to the rear of the body provides three-point suspension for quick installation and leveling – one keyhole slot at top and two open slots at bottom
- Bodies have two taper tapped conduit hubs with integral bushings on the top, and two more directly below
- Universal mounting plate and reset mechanism will accommodate any of the motor starters in catalog listing
- When interior mounting plate is removed, line and load conductors are easily pulled into the wiring chamber. The interior assembly with starter attached is then replaced, final connections made, and covers assembled
- Furnished with third overload relay as standard

Certifications and Compliances:

NEC/CEC

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 7CD, 9EFG, 12
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies and covers copper-free aluminum
- Reset handle copper-free aluminum
- Reset shaft stainless steel
- Interior parts stainless steel

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel electrogalvanized with chromate finish

Electrical Rating Range:

• Starter Sizes 0 to 1 inclusive



Options:

The following special options are available from factory by adding suffix to Cat. No. and many are available in kit form for field addition to existing units: See page 471 for listing of kits

Description	Suffix
Control circuit transformer 600/480/240–120 volts, 50 or 60 hertz	
(Sizes 0 and 1 – 50VA, 100VA) Fusible – Secondary	FT
Primary and secondary	FTPS
Automatic reset overload relay	S1
Less overload relays (lighting contactor)	CL
Less overload relays (motor contactor)	CM
Auxiliary Contacts:*	
1NO/1NC	S781
2NO/2NC	S782
3NO/3NC	S783
Pilot light holes drilled, tapped and plugged for future addition of pilot lights –	
one hole	S541
two holes	S542
Side bosses drilled and tapped same size as standard hubs	S366
Back boss drilled and tapped same size as standard hubs	S367
Standard Breather (Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III)	S219
Standard Drain (Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III)	S198
Standard Breather and Drain (Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III)	S198V
Universal Breather-Drain (Cl. I, Groups C, D; Cl. II, Groups F, G)	S454‡
(2) Universal-Breather Drains (Cl. I, Groups C, D; Cl. II, Groups F, G)	S454V‡
Pushbuttons (heavy duty):	
START-STOP	PB3‡
Selector switches (standard duty):	
ON-OFF	RR2‡
HAND-OFF-AUTO	RR3‡
Pilot lights:	
Red, 120 volt	J1
Green, 120 volt	J3
Pilot light transformers:	
240 volt†	T2
480 volt†	T4
600 volt†	T5
Space heaters:	
120 volt	R11
240 volt	R22
480 volt	R44

*Application limited by starter or contactor design – consult factory.

†Required for pilot lights on other than 120 volt control circuits. One required for each lamp. ‡Not suitable for NEMA 4.

Interior parts – stainless

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

Ordering Information:

To order an enclosure complete with starter, insert the manufacturer's symbol in the designated position of the catalog number. Symbols are shown in the footnote at the bottom of this page. Specify HP, voltage, frequency, RPM, type and full load ampere rating of motor – or specify ampere rating of heaters.

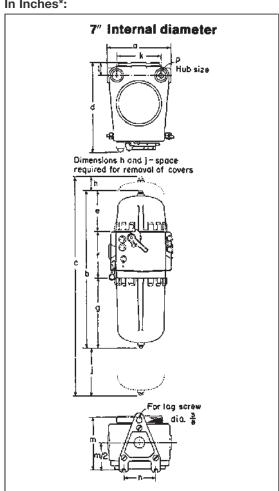
Enclosures only can be ordered. Select from listings.

Motor Starter			Enclosure			
Max. HP Polyphase	Volts	NEMA/EEMAC Size	Hub Size in.	Int. Dia. in.	Without Starter Cat. #	With Starter Cat. # §
2	120	0	11/4	7	EPC97	EPC970 ①613
3	120	1	11/4	7	EPC97	EPC971 ①613
3	240	0	11/4	7	EPC97	EPC970 ①623
5	480	0	11/4	7	EPC97	EPC970 ①643
5	600	0	11/4	7	EPC97	EPC970 ①653
71/2	240	1	1 1/4	7	EPC97	EPC971 ①623
10	480	1	1 1/4	7	EPC97	EPC971 ①643
10	600	1	11/4	7	EPC97	EPC971 ①653

①Motor Starters: Manufacturer	Symbol
Allen-Bradley	AB
General Electric	G
Square D	D
Cutler-Hammer	W

Dimensions In Inches*:

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Single-Speed Non-Reversing Sizes 0, 1, Starters

	_		
	EPC97	EPC97-FT EPC97-FTPS	
nt. Dia.	7"	7"	
	Dimensions	Dimensions†	
ı	10 ⁵ / ₈	10⁵/₃	
)	1913/16	2413/16	
;	2513/16	3713/16	
b	1411/16	14 ¹¹ / ₁₆	
:	63/4	113/4	
	711/16	711/16	
l	53/8	53/8	
1	2	9	
	4	4	
	73/8	73/8	
	21/16	21/16	
า	93/8	93/8	
	51/4	51/4	
)	11/4	11/4	
	1,74	1,74	

*Dimensions are approximate, not for construction. †For units with Control Circuit Transformer (suffix FT or FTPS). § Starters are furnished with three heaters when heater ratings are fully specified.

EPC Magnetic Line Starters and Enclosures

Special Feature Kits

Pushbutton Station and Selector Switch

EPC magnetic line starter and EPC combination line starter enclosures are provided as standard with switch operating shaft holes drilled, tapped and plugged. Pushbutton stations and selector switches can be assembled in these enclosures in the field, using kits listed below.

Applies to 7" and 11" EPC

Description	Cat. #
START-STOP pushbutton station assembly	EPC PB3 KIT
Replacement pushbutton station only for EPC-PB3-KIT	16320 N
ON-OFF selector switch assembly (2 position)	EPC RR2 KIT
Replacement switch only for EPC-RR2-KIT	ESWP126
HAND-OFF-AUTO selector switch assembly (3 position)	EPC RR3 KIT
Replacement switch only for EPC-RR3-KIT	ESWP126

Pilot Light Kits

When EPC magnetic line starter and EPC combination line starter enclosures have been ordered with pilot light holes drilled, tapped and plugged (Cat. No. suffix S541 and S542), pilot lights can be assembled in the field, using kits listed below.

Description	Applies to	Cat. #
Pilot light assembly less transformer	7", 11" EPC	EMP015 ① KIT
Pilot light assemblies with transformer and transformer mounting strap (for single pilot light) suffix S541	7" EPC only	EPC87 ① ② KIT
	11" EPC only	EPC813 ① ② KIT
2 pilot light assemblies with 2 transformers and transformer mounting strap (for double pilot light) suffix S542	7" EPC only	EPC87 ① ① ② KIT
	11" EPC only	EPC813 ① ① ② KIT
Replacement pilot light transformer only (240V primary)	All units	15129 A
Replacement pilot light transformer only (480V primary)	All units	15130 A
Replacement pilot light transformer only (600V primary)	All units	15131 A

①Insert color symbol from table below and

2 add primary voltage symbol

Example: EPC87-①-①-②-KIT with red and green pilot lights for 480 volts is EPC-J1-J3-T4-KIT.

Color	Symbol	Color	Symbol
Red Green Amber	J1 J3 J6	Clear Blue	J10 J11
Voltage	Symbol		

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1 & 2, Groups E, F, G CI. III NEMA 3, 4, 4X*, 7(CD), 9(EFG)

UL/cUL Listed

Explosionproof Wet Locations

Applications:

- Explosionproof compact across-the-line manual NEMA starters for single and polyphase VAC or VDC motors
- Used on drilling rigs for mud agitators and shakers where flammable or explosive gases are present
- Also used for fans and blowers, pumps, compressors, and conveyors

Features:

- Built to protect from mud and hosedirected water - NEMA 4
- Robust protection for start-stop buttons
- Option for no top entries for further protection from water ingress
- Pushbutton can be locked in "OFF" position
- Versatile mounting footprint accomodates field retrofit

Certifications and Compliances:

- Class I, Division 1 & 2, Groups C, D
- Class II, Division 1 & 2, Groups E, F, G
- Class II
- NEMA 3, 4, 4X*, 7(CD), 9(EFG)
- UL Standard: 1203
- cUL Standard: C22.2 No. 30

Standard Materials:

- Enclosure copper-free aluminum
- Shaft, bearing, and bolts stainless steel
- O-ring gasket Buna-N

Electrical Ratings:

- NEMA starter sizes 0, 1, and 1P
- 1 to 10 HP

B

Catalog Numbering System:

SERIES	ENCLOSURE TYPE	STARTER	OPTIONS†
EMN	25	D31	S198V

SERIES

EMN Explosionproof Compact Manual Motor Starter

ENCLOSURE TYPE

Compact Pushbutton Enclosure pre-drilled for Square D starter
Compact Pushbutton Enclosure pre-drilled for GE starter

STARTER

D31 D = Square D and G = GE, followed by number of poles and NEMA size

			MAX	K. HORSEPO	WER	
NO. OF POLES	NEMA SIZE	MOTOR VOLTAGE	SINGLE PHASE	POLY- PHASE	DC	CATALOG NUMBER
	0	115	1			EMN25 D20
	U	230	2			EIVINZS DZU
2	4	115	2			EMN25 D21
2	'	230	3			EIVINZO DZ I
	1P	115	3			EMN25 D21P
		230	5			EIVINZS DZ IP
	0	200-230		3		EMN25 D30
3	U	380-575		5		EIVINZS D30
3	4	200-230		7-1/2		EMN25 D31
	'	380-575		10		EIVINZS DS I
	0	115			1	ENANGE DOODG
2	0	230			1-1/2	EMN25 D20DC
DC	_	115			1-1/2	ENANGE DOADO
	1	230			2	EMN25 D21DC

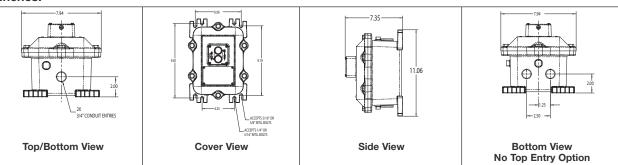
OPTIONS

S752 Gray Epoxy Powder Coating, outside only
 S753 Gray Epoxy Powder Coating, outside and inside
 S198V Breather (ECD-N4B) and Drain (ECD-N4D)

NTE No Top Entries

† Add heater suffix. See next page for heater tables

Dimensions In Inches:



^{*}NEMA 4X rated when ordered with epoxy powder coating.

EMN Series Pushbutton Style Compact Manual NEMA Starters

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1 & 2, Groups E, F, G CI. III NEMA 3, 4, 4X*, 7(CD), 9(EFG)

UL/cUL Listed

Explosionproof Wet Locations

Select heater elements based on motor nameplate listed Full Load Amps (FLA). Trip rating of elements is 125% of motor minimum FLA listed for the elements. One heater is furnished with two-pole AC or DC starters and three heaters with three-pole starters.

Heater	Table	(Square	D

Motor	Full-L	.oad	Current	(A)

	Motor Full-Load	Current (A)
Suffix	1 PH	3 PH
Following S	elections for Size M-0,	M-1, and M-1P Only
B44 B51 B57 B63 B71 B81 B92 B103 B116 B130 B145 B167 B188 B210 B240 B265 B300 B330 B370 B415 B485 B550 B625 B690 B770 B820 B910 B102 B115 B128	elections for Size M-0, 0.33-0.36 0.37-0.40 0.41-0.45 0.46-0.52 0.53-0.59 0.60-0.66 0.67-0.73 0.74-0.81 0.82-0.91 0.92-1.02 1.03-1.14 1.15-1.29 1.20-1.42 1.43-1.64 1.65-1.80 1.81-2.10 2.11-3.20 2.31-2.61 2.62-2.99 3.00-3.37 3.38-3.94 3.95-4.24 4.25-4.54 4.55-5.29 5.30-5.73 5.74-6.35 6.36-7.08 7.09-7.83 7.84-8.47 8.48-9.83	M-1, and M-1P Only 0.29-0.32 0.33-0.36 0.37-0.39 0.40-0.47 0.48-0.56 0.57-0.63 0.64-0.69 0.70-0.77 0.78-0.86 0.87-0.96 0.97-1.11 1.12-1.23 1.24-1.37 1.38-1.55 1.56-1.75 1.76-1.92 1.93-2.16 2.17-2.50 2.51-2.81 2.82-3.16 3.17-3.40 3.41-3.76 3.77-4.00 4.01-4.68 4.69-5.18 5.19-5.51 5.52-6.19 6.20-7.12 7.13-8.15 8.16-8.60
B140 B155 B175 B195 B220 B250	9.84-10.50 10.60-11.40 11.50-12.80 12.90-13.90 14.00-16.10 16.20-18.00 elections for Size M-1	8.61-9.21 9.22-10.10 10.20-11.20 11.30-12.00
B195	elections for Size M-1	11.30-12.10
B220 B250 B280 B320 B360 B400 B450	16.20-17.60 17.70-20.60 20.70-23.10 23.20-26.00 elections for Size M-1	12.20-13.60 13.70-15.30 15.40-17.30 17.40-19.10 19.20-21.70 21.80-24.20 24.30-26.00
B360	23.20-27.10	
B400 B450 B500	27.20-29.20 29.30-33.00 33.10-36.00	

Heater Table (General Electric)

Max.	Motor	Full-Load	Current (A))

Suffix	1 PH	3 PH
	elections for Size M-0	
36A 39A	0.34 0.37	0.29 0.31
43A	0.42	0.34
48A	0.47	0.40
54A	0.52	0.44
60A	0.57	0.48
66A	0.63	0.52
71A	0.69	0.58
78A 87A	0.77 0.87	0.64 0.71
97A	0.87	0.71
109A	1.06	0.89
118A	1.18	0.98
131A	1.33	1.12
148A	1.47	1.22
163A	1.66	1.38
184A	1.78	1.48
196A 220A	2.00 2.18	1.66
239A	2.45	1.80 2.03
268A	2.76	2.28
301A	3.00	2.47
326A	3.27	2.71
356A	3.49	2.87
379A	3.86	3.18
419A	4.30	3.54
466A 526A	4.88 5.49	3.89 4.51
592A	5.85	4.90
630A	6.45	5.30
695A	7.22	5.94
778A	8.05	6.70
867A	8.88	7.36
955A	9.66	7.98
104B	10.50	8.59
113B 125B	11.60 12.70	9.46 10.30
137B	13.20	11.70
151B	15.10	12.60
163B	16.60	13.80
180B	17.60	15.40
198B		16.60
214B		17.40
Following Se	elections for Size M-1	Only
198B	19.80	
214B	21.10	
228B	23.10	19.40
250B 273B	25.20	20.60 22.00
303B		25.30
	elections for Size M-1	
778A	8.56	
867A	9.43	
955A	10.30	
104B	11.00	
113B	12.10	
125B	13.20	
137B	15.00	
151B	16.20	
163B 180B	17.70 19.70	
198B	21.20	
214B	22.20	
228B	24.90	
250B	26.40	
273B	30.00	
303B	32.70	
330B	34.00	I

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1 & 2, Groups E, F, G CI. III NEMA 3, 4, 4X†, 7(CD), 9(EFG)

UL/cUL Listed

Explosionproof Wet Locations

Applications:

- Explosionproof compact across-the-line starting and stopping for small single and polyphase AC motors
- Used for small machine tools, turbines, fans and blowers, pumps, compressors, and conveyors where ignitable dusts, fibers, or filings accumulate
- IEC starters are more precisely rated and, as a result, save users money during operation
- Sophisticated IEC design reduces risk of motor damage during a fault

Features:

- Built to protect from mud and hosedirected water - NEMA 4 and robust protection of buttons
- Option for no top entries for further protection from water ingress
- Pushbutton can be locked in "OFF" position
- Versatile mounting footprint accomodates field retrofit

Certifications and Compliances:

- Class I, Division 1 & 2, Groups C, D
- Class II, Division 1 & 2, Groups E, F, G
- Class III
- NEMA 3, 4, 4X†, 7(CD), 9(EFG)
- UL Standard: 1203
- cUL Standard: C22.2 No. 30

Standard Materials:

- Enclosure copper-free aluminum
- Shaft, bearing, and bolts stainless steel
- O-ring gasket Buna-N

Electrical Ratings:

- IEC Cutler-Hammer[™] Type XTPB Manual Starter
- 1 to 15 HP

Dimensions In Inches:



Catalog Numbering System:

SERIES	ENCLOSURE TYPE	STARTER	OPTIONS
EMN	26	WP16	S198V

SERIES

EMN Explosionproof Compact Manual Motor Starter

ENCLOSURE TYPE

26 Compact Pushbutton Enclosure pre-drilled for Cutler-Hammer™ Starter

STARTER

WP16

W = Cutler-Hammer™ followed by starter type suffix

- WP16 = IEC, .16A
- W1P6 = IEC, 1.6A
- W012 = IEC, 12A

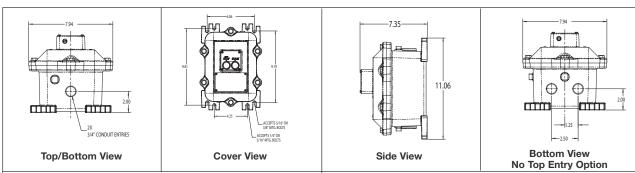
MAXIMUM HORSEPOWER						ADJUSTMENT RANGE FLA	RATED UNINTERRUPTED CURRENT	CATALOG NUMBER
Single	Phase		Three	Phase				
115V	230V	200-208V	230V	480V	600V			
-	-	*	*	*	*	0.1-0.16	0.16	EMN26 WP16
-	-	*	*	*	*	0.16-0.25	0.25	EMN26 WP25
-	-	*	*	*	*	0.25-0.4	0.4	EMN26 WP40
-	-	*	*	*	*	0.4-0.63	0.63	EMN26 WP63
-	-	*	*	0.5	0.5	0.63-1	1	EMN26 W001
-	0.1	*	*	0.75	0.75	1-1.6	1.6	EMN26 W1P6
-	0.16	0.5	0.5	1	1.5	1.6-2.5	2.5	EMN26 W2P5
0.12	0.33	0.75	0.75	2	3	2.5-4	4	EMN26 W004
0.25	0.5	1	1	3	5	4-6.3	6.3	EMN26 W6P3
0.5	1.5	2	3	5	7.5	6.3-10	10	EMN26 W010
0.5	2	3	3	7.5	10	8-12	12	EMN26 W012
1	2	3	5	10	10	10-16	16	EMN26 W016
1.5	3	5	5	10	15	16-20	20	EMN26 W020
2	3	5	7.5	15	20	20-25	25	EMN26 W025

*In this range, calculate motor rating according to rated current. Specified values to NEC Table 430.250.

OPTIONS

S752 Gray Epoxy Powder Coating, outside only
S753 Gray Epoxy Powder Coating, outside and inside
S198V Breather (ECD1-N4B) and Drain (ECD1-N4D)
NTE No Top Entries

NIE NO IOP Entrie



†NEMA 4X rated when ordered with epoxy powder coating.

EMN Series Manual Line Starters and Enclosures

600VAC Maximum

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7CD, 9EFG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

EMN manual line starters and enclosures are used:

- For manual across-the-line starting of single and polyphase AC motors
- To provide motor running protection and manual starting and stopping
- In locations made hazardous due to the presence of flammable vapors, gases, or high combustible dusts
- For installation in petroleum refineries, chemical and petrochemical plants, and other process industry facilities
- In damp, wet, or corrosive locations

Features:

- Compact, rectangular enclosure makes optimum use of internal space
- Operating handle may be padlocked in either "ON" or "OFF" position
- Compact design allows installation in area where space is limited
- Furnished with drilled and tapped conduit openings
- Polyphase manual starters are furnished with third overload relay as standard

Certifications and Compliances:

NEC/CEC

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 7CD, 9EFG, 12
- UL Standard: 1203
- CSA Standard: C22.2 No. 14

Standard Materials:

- Bodies, covers and toggle operator copper-free aluminum
- Operating shaft stainless steel
- Internal operating bail sheet steel or aluminum

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel electrogalvanized with chromate finish

Electrical Rating Ranges:

• Starter sizes 0, 1, 1P

Options:

Ordering Information:

Specify HP, voltage, frequency, number of phases, RPM, type and full load ampere rating of motor – or specify ampere rating of heaters.

Two pole starters require one heater; three pole starters have three heaters.



Motor Starter

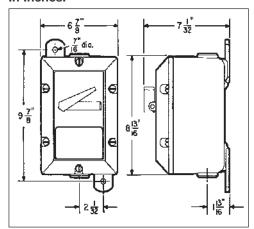
		iviaxi / tv	,	•	
NEMA Size	Poles (Phase)	115V	208/ 240V	480/ 600V	Enclosure With Starter Cat. #
M-0	2 (1PH)	1	2		EMN24 W20
M-1	2 (1PH)	2	3		EMN24 W21
M-1P	2 (1PH)	3	5		EMN24 W21P
M-0	3 (3PH)	2	3	5	EMN24 W30
	3 (1PH)	2	3		EIVINZ4 W30
M-1	3 (3PH)	3	71/2	10	EMN24 W31

Max AC HP Ratings

Enclosure Without Starter

Starter Manufacturer	Enclosure Cat. #†
Cutler-Hammer	EMN24

Dimensions* In Inches:



†Enclosures are furnished with two 11/4" drilled and tapped openings with 11/4" to 1" reducers. "Dimensions are approximate, not for construction purposes.

with Manual Motor Starters

Cl. I, Div. 1 & 2, Groups C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7CD, 9EFG, 12

Dust-Ignitionproof Raintight Wet Locations

Applications:

GUSC manual motor starters are used:

- In a rigid metallic conduit system for surface mounting adjacent to or remote from the equipment being controlled
- To prevent arcing of the enclosed switches from causing ignition of a specific hazardous atmosphere, or atmospheres, external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where the atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required

Features:

- · Enclosures are of rugged metal construction with mounting lugs and taper tapped hubs with integral bushings, in a through feed or bottom feed arrangement, for connection to the rigid metallic conduit
- · Cover is threaded, which provides for fast and proper assembly
- · Provided with a threaded operating shaft and bushing
- Provision is made to use a padlock with 1/4" hasp, to lock the operating lever in an "ON" or "OFF" position
- · Body and cover threads treated with lubricant at factory to provide raintightness

Certifications and **Compliances:**

• NEC/CEC:

Class I, Div. 1 & 2, Groups C, D Class II, Div. 1, Groups E, F, G Class II, Div. 2, Groups F, G Class III

• NEMA/EEMAC: 3, 7CD, 9EFG, 12

• UL Standard: 1203

• CSA Standard: C22.2, No. 30

Standard Materials:

- Body Feraloy® iron alloy
- Cover copper-free aluminum
- Shaft stainless steel
- Shaft bushing stainless steel

Standard Finishes:

- Feralov iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Stainless steel natural

Size Ranges:

• Hub size - 3/4" (through feed arrangement)

Electrical Rating Ranges:

See below



Ordering Information:

Rating/Horsepower	
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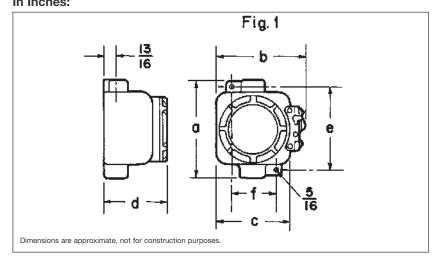
Cat. #	Style	120VAC / 3 HP	240VAC / 7 ¹ / ₂ HP	480VAC / 15 HP	600VAC / 15 HP	Hub Size
GUSC2013-MS*	3-Pole	30A	30A	30A	20A	3/4"

Rating/Horsepower

Cat. #	Style	120VAC / 3 HP	240VAC / 7½ HP	480VAC / 15 HP	600VAC / 20 HP	Hub Size
GUSC2036-MS	3-Pole	40A	40A	40A	40A	3/4"

^{*}Also rated for 30A, 250VDC, 15 HP.

Dimensions In Inches:



Туре	Size	а	b	С	d	е	f	
Through	Feed Hubs - Fig. 1							
	3-Pole	63/16	61/16	$4^{7}/_{8}$	41/8	5³/ ₈	3	

EFD Series Manual Motor Starting Switches and Enclosures

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG, 12

Dust-Ignitionproof Raintight Wet Locations

Applications:

EFD manual motor starting and stopping switch enclosures are used:

- For manual starting of small AC or DC motors
- In locations made hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- For installation at petroleum refineries, chemical and petrochemical plants and in other process industry facilities where similar hazards exist

Features:

- · Enclosure is small and compact
- · Accurately ground flange on both body and cover for flame-tight joint
- Switch can be padlocked in either "ON" or "OFF" positions

 • Dead end (EFD) or through feed (EFDC)
- hubs in 3/4" to 1" size

Certifications and Compliances:

• NEC/CEC

Class I, Division 1 & 2, Groups B*, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA: 3, 7B*CD, 9EFG, 12
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies and covers Feraloy® iron alloy
- Operating handle type 6 / 6 nylon
- Operating shaft stainless steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Type 6 / 6 nylon natural (black)
- Stainless steel natural

Options:

The following special options are available from factory by adding suffix to Cat. #: Description For use in Group B hazardous areas



EFD dead end



EFDC through feed

Electrical Ratings Without Overload Protection With Switches

Poles Cat. #		Switch Ratings Amps		HP		
2	Square D Class 2510 Type KO-1	250VAC 30	600VAC 20	115VAC 1	230VAC 2	460–575VAC 3
3	GE TC2368S	30A., 240VAC, 7-1 / 2 hp 20A., 600VAC, 15 hp				

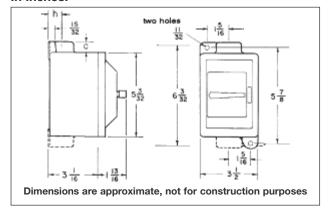
Ordering Information Dead end

Poles	Hub Size in.	With Switch Cat. #
2	³ / ₄	EFD218 T8 EFD318 T8
3	³ / ₄ 1	EFD2419 EFD3419

Through feed

	Poles	Hub Size in.	With Switch Cat. #	
2		3/4	EFDC218 T8	
	2	1	EFDC318 T8	
3	3/4	EFDC2419		
	1	EFDC3419		

Dimensions In Inches:



Hub Size	Dim. "h"	Dim."a"
3/4	⁷ / ₈	13/16
1	1	15/40

*Add GB suffix. Seals must be installed within $1^{1}\!\!/_{\!2}"$ of each conduit opening for Group B usage

EDS Series Factory Sealed 2C Manual Motor Starting Switches and Enclosures

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG

Dust-Ignitionproof Raintight Wet Locations

Applications:

Factory sealed enclosures are installed in a rigid metallic conduit system for surface mounting adjacent to or remote from equipment being controlled and are used:

- To prevent arcing of enclosed device from causing ignition of a specific hazardous atmosphere or atmospheres external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required
- In conjunction with magnetic starters or contactors for remote control of motors

Manual motor starting switch enclosures

- For manual starting of small AC or DC
- To provide manual starting and stopping and, in the case of units with heaters, motor running protection

Features:

Factory sealed devices have many distinct advantages:

- Reduce installation problems
- Eliminate external seals
- · Lower installation costs
- · Improve safety
- · Mounting lugs and taper tapped hubs with integral bushings
- Large machine screws for fastening covers to bodies
- Lockout hole for padlock having 1/4" hasp is provided
- Close tolerances in machining of wide, mating flanges and journalled shafts and bearings produce flametightness of enclosure joints
- Dead end (EDS) or through feed (EDSC) hubs - 3/4" or 1" sizes

Certifications and Compliances:

NEC/CEC

Class I, Division 1 & 2, Groups B*, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

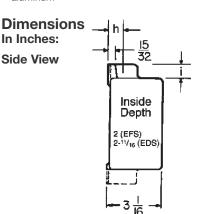
- NEMA/EEMAC: 3, 7B*CD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

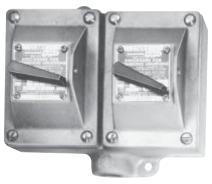


EDSC2199

Standard Materials:

- Bodies Feraloy® iron alloy (U.S.); copper-free aluminum (Canada)
- Shafts & bushings stainless steel
- Sealing enclosures copper-free aluminum





EDS2299

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Type 6 / 6 nylon black
- Stainless steel natural

Options:

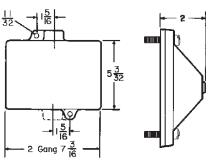
Description	Suffix
For use in Group B hazardous	
areas	GB ²
Bodies and covers (single and two	
gang units) - copper-free aluminum	SA

Hub Size	Dim. "h"	Dim. "i"	
3/4	7/8	13/16	
1	1	15/	

Front View

Single gang

18



Two gang

5 7 8

Dimensions are approximate, not for construction purposes.

Surface covers have same

2 gang bodies.

length and width as single &

^{*}Seals must be installed within 11/2" of each conduit opening in Division 1.

EDS Series Factory Sealed Manual Motor Starting Switches and Enclosures

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

NEMA 3, 7B*CD, 9EFG

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Ordering Information
With Allen-Bradley Bulletin 600 Switches

Maximum HD Ratings

Poles	115–230 Volts AC	115–230 Volts DC	Cat. #
1 2	1 hp 1 hp	³/₄ hp	A B BUL 600 TOX4 A B BUL 600 TOX5
Poles	Hub Size in.	Dead end Cat. #	Through feed Cat. #

Poles	Hub Size in.	Dead end Cat. #	Through feed Cat. #
Single Ga	ıng		
1	3/ ₄ 1	EDS2199 ① EDS3199 ①	EDSC2199 ① EDSC3199 ①
2	³ / ₄ 1	EDS21100 ① EDS31100 ①	EDSC21100 ① EDSC31100 ①
Two Gang	9		
1	³ / ₄	EDS2299 ① EDS3299 ①	EDSC3299 ① EDSC3299 ①
2	³/₄ 1	EDS22100 ① EDS32100 ①	EDSC22100 ① EDSC32100 ①

Heater Table (Allen-Bradley)

riodici idbic (riion Bradicy)				
Max. Motor Full-Load Amps	Eaton ['] s Crouse-Hinds Symbol Number	Max. Motor Full-Load Amps	Eaton's Crouse-Hinds Symbol Number	
0.17	P1	2.92	P22	
0.21	P2	3.09	P23	
0.25	P3	3.32	P24	
0.32	P4	3.77	P25	
0.39	P5	4.16	P26	
0.46	P6	4.51	P27	
0.57	P7	4.93	P28	
0.71	P8	5.43	P29	
0.79	P9	6.03	P30	
0.87	P10	6.83	P31	
0.98	P11	7.72	P32	
1.08	P12	8.24	P33	
1.19	P13	8.9	P34	
1.30	P14	9.6	P35	
1.43	P15	10.8	P36	
1.58	P16	12.0	P37	
1.75	P17	13.5	P38	
1.88	P18	15.2	P39	
2.13	P19			
2.40	P20			
2.58	P21			

① Includes one interchangeable heater. Select heater from the table below individual listings and use symbol number as second section of the Cat. No. Example: EDS2199-P5. Insert symbol 0 (zero) to omit

These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C, multiply full load motor current by 0.9 and use this value to select heaters. Symbol 0 (zero) must be used to indicate heater omitted.

*Add GB suffix. Seals must be installed within 11/2" of each conduit opening for Group B usage.

With General Electric Switches

iviaxim	um HP Kating	S		
	115-230	115	230	
Poles	Volts AC	Volts DC	Volts DC	Cat. #
1	1 hp	1 hp	¹/₄ hp	GE CR101 Y
2	1 hp	1 hp	1 hp	GE CR101 H

Poles	Hub Size in.	Dead end Cat. #	Through feed Cat. #			
Single 6	ang					
4	3/4	EDS21093 ①	EDSC21093 ①			
ı	1	EDS31093 ①	EDSC31093 ①			
_	3/4	EDS21094 ①	EDSC21094 ①			
2	1	EDS31094 ①	EDSC31094 ①			
Two Gai	Two Gang					
4	3/4	EDS22093 ①	EDSC22093 ①			
ı	1	EDS32093 ①	EDSC32093 ①			
0	3/4	EDS22094 ①	EDSC22094 ①			
2	1	EDS32094 ①	EDSC32094 ①			

Heater Table (General Electric)

Max. Motor Full-Load Amps	Eaton's Crouse-Hinds Symbol Number	Max. Motor Full-Load Amps	Eaton's Crouse-Hinds Symbol Number
.48	G2	3.01	G22
.53	G3	3.27	G23
.58	G4	3.56	G24
.65	G5	3.88	G25
.71	G6	4.22	G26
.78	G7	4.60	G27
.86	G8	5.00	G28
.95	G9	5.43	G29
1.04	G10	5.90	G30
1.14	G11	6.41	G31
1.25	G12	6.98	G32
1.37	G13	7.60	G33
1.49	G14	8.25	G34
1.63	G15	8.95	G35
1.78	G16	9.75	G36
1.95	G17	10.6	G37
2.13	G18	11.4	G38
2.32	G19	12.5	G39
2.53	G20	13.6	G40
2.76	G21	14.8	G41
		16.0	G42

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

With Cutler-Hammer Switches

Maximum	HP	Ratings
---------	----	---------

		120–240 Volts AC	32	120 Volts DC	240 Volts DC	Cat. #
	1	1 hp	¹/₄ hp	¹/₄ hp	¹/₄ hp	WEST MST01
	2	1 hp	¹/₄ hp	1 hp	³/₄ hp	WEST MST02

Poles	Hub Size in.	Dead end Cat. #	Through feed Cat. #					
Single Gang								
1	3/4	EDS21101 ①	EDSC21101 ①					
1	1	EDS31101 ①	EDSC31101 ①					
	2/	EDC04400 @	EDS004400 @					
2	3/4	EDS21102 ①	EDSC21102 ①					
-	1	EDS31102 ①	EDSC31102 ①					
Two G	ang							
4	3/4	EDS22101 ①	EDSC22101 ①					
1	1	EDS32101 ①	EDSC32101 ①					
2	3/4	EDS22102 ①	EDSC22102 ①					
۷	1	EDS32102 ①	EDSC32102 ①					

Heater Table (Cutler-Hammer)

Max. Motor Full-Load Amps	Eaton's Crouse-Hinds Symbol Number	Max. Motor Full-Load Amps	Eaton's Crouse-Hinds Symbol Number
.43	W 1	2.95	W21
.48	W 2	3.27	W22
.53	W 3	3.59	W23
.58	W 4	3.99	W24
.64	W 5	4.39	W25
.71	W 6	4.79	W26
.78	W 7	5.26	W27
.87	W 8	5.83	W28
.95	W 9	6.39	W29
1.03	W10	7.03	W30
1.15	W11	7.74	W31
1.27	W12	8.46	W32
1.35	W13	9.35	W33
1.51	W14	10.30	W34
1.67	W15	11.35	W35
1.83	W16	12.47	W36
1.99	W17	13.67	W37
2.23	W18	15.12	W38
2.47	W19	16.00	W39
2.71	W20		

① Includes one interchangeable heater. Select heater from the table below individual listings and use symbol number as second section of the Cat. No. Example: EDS2199-P5. Insert symbol 0 (zero) to omit heater.

These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C , multiply full load motor current by 0.9 and use this value to select heaters. Symbol 0 (zero) must be used to indicate heater omitted.

*Add GB suffix. Seals must be installed within $1\frac{1}{2}$ " of each conduit opening for Group B usage.

GHG 635 Series Explosion Protected Manual Motor Starters

25 Amp, 690 VAC Non-metallic Enclosure Cl. II, Div. 1, Groups E, F, G (cUL) IP66, NEMA 4X

UL/cUL Listed CI. I, Div. 2, Groups A, B, C, D CI. I, Zones 1 and 2, AEx de IIB + H₂, T5, T6

CENELEC - PTB 99 ATEX 1162 Certified Ex de IIC, T6, Zones 1 and 2 Ex de IIC, T6 Zones 21 and 22 IP66 NEMA 4X

Applications:

 Explosion protected manual motor starters are used in a metallic conduit or cable system for surface mounting to protect motors against overload and phase failure.

Features:

- Explosion protected factory sealed circuit breaker and manual motor starter
- Innovative break-line in cover allows full wiring access, making installation quick and easy
- Switch handle provides clear indication of switch position
- Lockable handle meets OSHA lockout/tagout requirements, provision for 3 padlocks
- Large rotary handle provides easy gripping with gloved hands
- · Captive cover screws

Certifications and Compliances:

- UL/cUL Listed
- Class I, Division 2, Groups A, B, C, D
- Class I, Zones 1 and 2, Ex de IIB+H2, T6
- Class II, Division 1, Groups E, F, G (cUL)
- CENELEC PTB 99-ATEX 1162
- Ex de IIC, T6, Zones 1 and 2
- IP66, NEMA 4X

Standard Materials:

 Enclosure - Fiberglass-reinforced polyester
 Nonmetallic, corrosion resistant Increased safety Ex-e protection Impact Resistant

NEMA 4X, IP66 Protection Enclosure meets UL 94-VO

UV rated

- Enclosure Gasket Silicon
- Handle Impact-resistant thermoplastic
- Cover Screws Stainless steel
- Conduit Entries Zinc Myers Hubs
- · Brass Mounting plate Ground continuity



Technical Data

Type of Protection
Rated Voltage
Rated Current
Rated Current, Aux. Contact
Short Circuit
Under Voltage Trip

Connection Terminals
Connection Terminals, Aux. Contact
Conduit or Cable Entries
Weight

(A)Ex ed IIC T5, T6
Up to 690 VAC
Up to 25 A
2 A
See table on next page
Tripping at 15% – 75% V-rated
Switching - on when V> 80% V-rated
Up to 10mm²

2 x 2.5 mm²

2 x 3/4" Myers hubs

5.5 lbs./2.5 Kg.

GHG 635 Series 2C Explosion Protected Manual Motor Starters

25 Amp, 690 VAC Non-metallic Enclosure

UL/cUL Listed Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zones 1 and 2, AEx de IIB + H₂, T₅, T₆

CENELEC - PTB 99 ATEX 1162 Certified Ex de IIC, T6, Zones 1 and 2 Ex de IIC. T6 Zones 21 and 22 Cl. II, Div. 1, Groups E, F, G (cUL) IP66, NEMA 4X

Setting Range	400 VAC AIC	500 VAC AIC	690 VAC AIC	
0.1 A – 1.6 A	N/A*	N/A*	N/A*	
1.6 A – 2.5 A	N/A*	N/A*	40	
2.5 A - 4.0 A	N/A*	60	10	
4.0 A - 6.3 A	N/A*	40	7	
6.3 A - 9.0 A	N/A*	30	5	
9.0 A - 12.5 A	75	27	4.5	
12.5 A - 16.0 A	60	25	4	
16.0 A - 20.0 A	55	22	3.5	
20.0 A - 25.0 A	50	20	3	

^{*} Short-circuit proof. No back-up fuse required.

Ordering Information

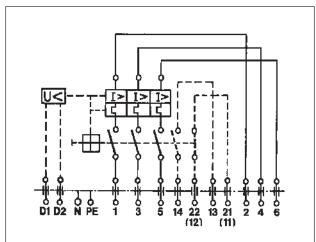
Setting Range or rated current	Cat. #
0.1 – 0.16 A	GHG 635 1101 L0101
0.16 – 0.25 A	GHG 635 1101 L0102
0.25 – 0.40 A	GHG 635 1101 L0103
0.40 – 0.63 A	GHG 635 1101 L0104
0.63 – 1.0 A	GHG 635 1101 L0105
1.0 – 1.6 A	GHG 635 1101 L0106
1.6 – 2.5 A	GHG 635 1101 L0107
2.5 – 4.0 A	GHG 635 1101 L0108
4.0 – 6.3 A	GHG 635 1101 L0109
6.3 – 9.0 A	GHG 635 1101 L0110
9.0 – 12.5 A	GHG 635 1101 L0111
12.5 – 16 A	GHG 635 1101 L0112
16 – 20 A	GHG 635 1101 L0113
20 – 25 A	GHG 635 1101 L0114

Accessory Options† 1 = without aux. contact 2 = with aux. contact 1 NO + 1NC

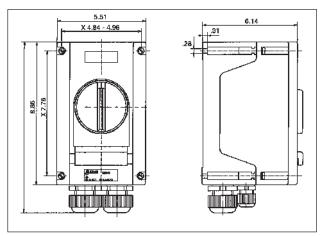
3 = with aux. contact 2 NO

†Catalog numbers on this page are shown without auxiliary contacts. To add aux. contacts, change last number in "1101" to a 2 or 3. Ex. 1102.

Wiring Diagram



Dimensions In Inches:



2C

MC Series Manual Motor Starting Switches and Enclosures

NEMA 3, 4, 12 Raintight Wet Locations

Applications:

MC manual motor starting switches and enclosures are used:

- For manual starting of small AC and DC motors of one horsepower or less (see next page for ratings)
- In damp, wet or corrosive locations such as dairies, meat packing plants, chemical plants and outdoor locations
- To provide motor running protection and manual starting and stopping

Features:

- Enclosure is compact and gasketed to meet NEMA/EEMAC 4 requirements for watertightness
- Switch can be padlocked in either the "ON" or "OFF" positions
- Provided with dead end (MC) or throughfeed (MCC) hubs – ½" and ¾" sizes – with mounting feet

Certifications and Compliances:

- NEMA/EEMAC: 3, 4, 12
- UL Standard: 508
- CSA Standard: C22.2 No. 14

Standard Materials:

- Body and cover Feraloy® iron alloy
- Operating handle copper-free aluminum
- Operating shaft stainless steel

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Stainless steel natural

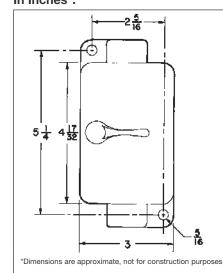


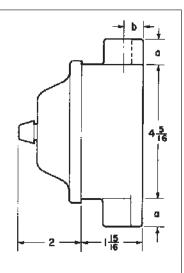
MC dead end



MCC through feed

Dimensions In Inches*:





Hub Size	1/2	3/4	
a	7/8	7/8	
b	5/8	3/4	

MC N	lanual Mo	tor Starting S	witches	Heater Table)	
Manufad	cturer	Poles	Cat. #	Full Load		
Cutler-H	ammer	1	MST01	Motor	Heater	Eaton's Crouse-Hinds
Cutler-H	ammer	2	MST02	Current	Rating	Symbol Number
				.40 – .43	.50	W1
	11			.44 – .48	.55	W2
<i>ı</i> laxın	num Horse	epower Rating	gs	.49 – .53	.61	W3
olts		1-Pole	2-Pole	.54 – .58	.67	W4
20 / 240) AC	1	1	— .59 – .64	.74	W5
2 DC	, , , ,	1/4	1/4	.65 – .71	.81	W6
20 / 240	DC	,4	1	.7278 .7987	.89	W7 W8
40 DC	, 50	1/4	•	.79 – .87 .88 – .95	.98	
		• •		.96 – 1.03	1.10 1.20	W9 W10
				.96 – 1.03 1.04 – 1.15	1.20	W10 W11
Orde	ring Inform	nation - MC		1.04 – 1.15 1.16 – 1.27	1.30 1.45	W12
				1.28 – 1.35	1.60	W12 W13
single	Gang (Dead	,		1.36 – 1.51	1.70	W14
		Enclosure		1.52 – 1.67	1.90	W15
		With	Without	1.68 – 1.83	2.10	W16
		Switch	Switch	1.84 – 1.99	2.30	W17
Poles	Hub Size in.	Cat. #	Cat. #	_ 2.00 - 2.23	2.50	W18
	1/2	MC1211 ①	MC1212B	2.24 – 2.47	2.80	W19
	3/4	MC2211 ①	MC2212B	2.48 – 2.71	3.10	W20
)	1/2	MC1212 ①	MC1212B	2.72 – 2.95	3.40	W21
)	3/4	MC2212 ①	MC2212B	2.96 – 3.27	3.70	W22
				3.28 – 3.59	4.10	W23
				3.60 – 3.99	4.50	W24
Ordei	ring Inform	nation - MCC		4.00 - 4.39	5.00	W25
	Gang (Throu			4.40 - 4.79	5.50	W26
Siligle	Gariy (Tillot			4.80 - 5.26	6.00	W27
		Enclosure	MCH	5.27 - 5.83	6.60	W28
		With	Without	5.84 - 6.39	7.30	W29
		Switch	Switch	6.40 - 7.03	8.00	W30
Poles	Hub Size in.	Cat. #	Cat. #	7.04 – 7.74	8.80	W31
	1/2	MCC1211 ①	MCC1212B	7.75 – 8.46	9.70	W32
	3/4	MCC2211 ①	MCC2212B	8.47 – 9.35	10.60	W33
	1/2	MCC1212 ①	MCC1212B	9.36 - 10.30	11.70	W34
2	3/4	MCC2212 ①	MCC2212B	10.31 – 11.35	12.90	W35
				11.36 – 12.47	14.20	W36
				12.48 – 13.67	15.60	W37
				13.68 – 15.12	17.10	W38
				15.13 – 16.00	18.60	W39

These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C, multiply full load motor current by 0.9 and use this value to select heaters.

① Includes one interchangeable heater. Select heater from table above and use symbol number as second section of the Cat. No. Example: MC1211-W5. Symbol 0 (zero) may be used to indicate heater omitted.

NSSC Series Manual Motor Starting Switches and NFS Series Fractional HP Starters and Enclosures

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Applications:

- Motor Starting Switches are used in manual "ON" and "OFF" control of DC and single-phase or three-phase AC motors where overload protection is not required or is provided separately
- NFSC Fractional Horsepower Starters are used in manual "ON" and "OFF" control and overload protection of small single phase motors
- Both are suitable for use in wet and/or corrosive environments

Features:

- Enclosures are made of Eaton's Crouse-Hinds high-impact strength Krydon® fiberglass-reinforced polyester material which has excellent corrosion resistance and stability to heat
- Provided with a toggle lever with a molded-in stainless steel shaft
- Factory installed through feed (NSSC, NFSC) hubs, ½" or ¾" size
- Indicating plate is made of stainless steel

Certifications and Compliances:

NEMA 3, 4X, and 12

Options:

 Grounding plate or bushing – see page 677



Ordering Information

NSSC Series Manual Motor Starting Switch Without Overload Protection

With Square D Switches

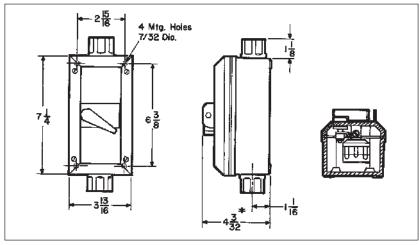
Max. HP Rating				Max. Amp. Ratings	
Poles	115 VAC	200-230 VAC	460-575 VAC	250 VDC	600 VDC
2	1	2	3	30	20
3	2	71/2	10	30	20

	Enclosure Wi	th Switch	
	Hub	Through	
Poles	Size	Feed Cat. #	
0	1/2	NSSC D12	
2	3/4	NSSC D22	
3	1/2	NSSC D13	
3	3/4	NSSC D23	

Enclosures Only

Enclosure Type	Hub Size	Through Feed Cat. #	
Manual Motor Starting Switch	1/2	NSSC1	
0	3/4	NSSC2	
Fractional HP Starter	1/2	NFSC1	
Starter	3/4	NFSC2	

Dimensions* In Inches:



*Dimensions are approximate. Not to be used for construction purposes unless approved.

NSSC Series Manual Motor Starting Switches and NFS Series Fractional HP Starters and Enclosures

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Ordering Information

NFSC Series Fractional HP Starters With Overload Protection

With Allen-Bradley Bulletin 600 Switches

Maximum HP Ratings

Maximum	115–230	115–230	
Poles	Volts AC	Volts DC	
1	1 hp		
2	1 hp	³/₄ hp	

	Enclos	ure With Starter	
Poles	Hub Size	Through Feed Cat. #	
1	1/ ₂ 3/ ₄	NFSC AB11 ① NFSC AB21 ①	
2	1/ ₂ 3/ ₄	NFSC AB12 ① NFSC AB22 ①	
—			

Heater Table (see pages 479-480)

With Cutler-Hammer Switches

Maximum HP Ratings

22

Poles	115–230 Volts AC	115–230 Volts DC	
1	1 hp		
2	1 hp	1 hn	

	Enclosure	With Starter	
	Hub	Through	
Poles	Size	Feed Cat. #	
	1/2	NFSC C11 ①	
1	3/4	NFSC C21 ①	
2	1/2	NFSC C12 ①	
2	3/4	NFSC C22 ①	

Heater Table (Cutler-Hammer)

Max. Motor Full-Load Amps	Eaton's Crouse-Hinds Symbol Number	Max. Motor Full-Load Amps	Eaton's Crouse-Hinds Symbol Number
.43	W 1	2.95	W21
.48	W 2	3.27	W22
.53	W 3	3.59	W23
.58	W 4	3.99	W24
.64	W 5	4.39	W25
.71	W 6	4.79	W26
.78	W 7	5.26	W27
.87	W 8	5.83	W28
.95	W 9	6.39	W29
1.03	W10	7.03	W30
1.15	W11	7.74	W31
1.27	W12	8.46	W32
1.35	W13	9.35	W33
1.51	W14	10.30	W34
1.67	W15	11.35	W35
1.83	W16	12.47	W36
1.99	W17	13.67	W37
2.23	W18	15.12	W38
2.47	W19	16.00	W39
2.71	W20		

① Includes one interchangeable heater. Select heater suffix from table and add to catalog number. Example: NFSC-D11A.49

With General Electric Switches

Maximum HP Ratings

Poles	115–230 VAC	32 VDC	115 VDC	230 VDC	
1	1 hp	1/4 hp	1 hp	1/4 hp	
2	1 hp	1/4 hp	1 hp	1 hp	

	Enclosure	With Starter	
Poles	Hub Size	Through Feed Cat. #	
1	1/ ₂ 3/ ₄	NFSC G11 ① NFSC G21 ①	
2	1/ ₂ 3/ ₄	NFSC G12 ① NFSC G22 ①	

Heater Table (see pages 479-480)

With Square D Switches

Maximum HP Ratings

Poles	115–230 Volts AC	115-230 Volts DC
1	1 hp	
2	1 hp	³/ ₄ hp

	Enclosure	With Starter	
	Hub	Through	
Poles	Size	Feed Cat. #	
-	1/2	NFSC D11 ①	
I	3/4	NFSC D21 ①	
2	1/2	NFSC D12 ①	
2	3/4	NFSC D22 ①	

Heater Table (Square D)

	Eaton's		Eaton's
Full-Load	Crouse-Hinds	Full-Load	Crouse-Hinds
Motor	Symbol	Motor	Symbol
Current	Number	Current	Number
0.41-0.44	A.49	2.85-3.06	A3.95
0.45 - 0.49	A.54	3.07-3.45	A4.32
0.50-0.53	A.59	3.46-3.70	A4.79
0.54-0.58	A.65	3.71-4.07	A5.30
0.59-0.65	A.71	4.08-4.32	A5.78
0.66-0.71	A.78	4.33-4.90	A6.20
0.72-0.78	A.86	4.91-5.35	A6.99
0.79-0.85	A.95	5.36-5.85	A7.65
0.86-0.96	A1.02	5.86-6.41	A8.38
0.97-1.04	A1.16	6.42-6.79	A9.25
1.05-1.16	A1.25	6.80-7.57	A9.85
1.17–1.29	A1.39	7.58-8.15	A11.0
1.30-1.37	A1.54	8.16-8.98	A11.9
1.38-1.47	A1.63	8.99-9.67	A13.2
1.48–1.56	A1.75	9.68-9.95	A14.1
1.57–1.65	A1.86	9.96-10.8	A14.8
1.66–1.79	A1.99	10.9-12.1	A16.2
1.80–1.95	A2.15	12.2-13.1	A17.9
1.96–2.15	A2.31	13.2-13.9	A19.8
2.16-2.38	A2.57	14.0-15.0	A21.3
2.39-2.75	A2.81	15.1-16.0	A25.2
2.76-2.84	A3.61		

NMN Series Manual Line Starters and Enclosures

600VAC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Suffix

Applications:

 NMN manual line starters are for use in across-the-line starting of motors, motor protection and manual starting and stopping.

Features:

- Enclosures are made of Eaton's Crouse-Hinds high-impact strength Krydon® fiberglass-reinforced polyester material which has excellent corrosion resistance and stability to heat.
- Factory installed dead end (NMN) or through feed (NMNC) hubs, ³/₄" and 1" sizes

Certifications and Compliances:

• NEMA/EEMAC 3, 4X and 12

Electrical Rating Ranges:

• Starter sizes 0, 1, 1P

Options:

Description

- Grounding plate see page 677.

Enclosure with Starter

Dead End

NMN ①220

NMN ①221

NMN ①221P

NMN 1230

NMN ①231

Enclosure Only*
NMN ①200

Cat #

3/4" Hubs

Through Feed

NMNC ①220

NMNC ①221

NMNC ①221P

NMNC 1230

NMNC **1231**

NMNC ①200

Cat #



Toggle-operated manual starter with knockout

1" Hubs

Through Feed

NMNC ①320

NMNC **①321**

NMNC 1330

NMNC 1300

NMNC 1300

NMNC ①321P

Cat #

Dead End

NMN **1320**

NMN **1321**

NMN **1330**

NMN **①331**

NMN 0300

NMN **①321P**

Cat #

Ordering Information

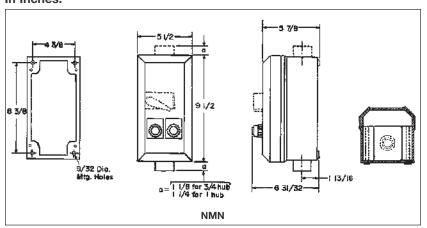
Starter

NEMA Size	Poles	Max. I 115V	1P 230V	460/575V
M-0	2 (1 PH)	1	2	
M-1	2 (1 PH)	2	3	
M-1P	2 (1 PH)	3	5	
M-0	3 (3 PH)	2	3	5
M-1	3 (1 PH)	2	3	
	3 (3 PH)	3	71/2	10

①Motor Starters: Insert appropriate symbol in Cat. No.

Manufacturer	Symb
Allen-Bradley	AB
General Electric	G
Square D	D

Dimensions In Inches:



^{*}Furnished with mounting plate and operator installed.

2C NMG Series Magnetic Line Starters and Enclosures

600VAC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Applications:

NMG magnetic line starters are used:

- For magnetic across-the-line starting of motors and remote starting and stopping
- For across-the-line starting of polyphase AC induction motors
- To provide motor running protection, undervoltage protection and remote starting and stopping

Features:

- Enclosures are made of Eaton's Crouse-Hinds high-impact strength Krydon® fiberglass-reinforced polyester material which has excellent corrosion resistance and stability to heat.
- Unitized, strong and durable enclosure construction provides longer service life for equipment.
- Exterior parts of RESET button made of Krydon material.

Certifications and Compliances:

• NEMA/EEMAC: 3, 4X and 12

Electrical Rating Ranges:

• Starter sizes 0, 1, 2, 3, 4





Magnetic line starter with optional hinged cover with START-STOP pushbuttons.

Options:	
Description	Suffix
Hinged cover	NH
Pilot lights, 120 V primary – specify	
other primary voltages as required:	
Red pilot light	J1*
Green pilot light	J3*
LED pilot lights in place of standard	
incandescent pilot lamps	LED
Pushbutton (heavy duty, uses two	
device holes):	
START-STOP	PB13*
Selector switches (heavy duty):	
ON-OFF HAND-OFF-AUTO	
JOG-RUN-OFF	
Padlock attachment for:	KK 19"
Pushbutton	S708
Control circuit transformer 480 /	3/00
240-120 volts, 50 or 60 hertz, (sizes	
0 and 1–50VA, size 2–100VA, size	
3–150VA. size 4–300VA):	
Fusible	
Secondary	FT
Primary and Secondary	FTPS
Automatic reset overload relay	S1
Less overload relays (contactor)	С
Auxiliary Contact on Starter or	
Contactor:	
1NO/1NC	S781
2NO/2NC	S782
3NO/3NC	S783

Description	Suffix
Time delay low voltage release for 3-wire control with 2, 4 or 6-second adjustment. For single-speed, non-reversing starters only. Control circuit voltage: 120 volt, 60 hertz	LVR2
Hubs (see "Note on Hubs") – see page 677 Grounding plate or bushing† – see page 677 Insulated, groundable type terminal block for a grounded or ungrounded neutral can be supplied	S618
Information on other options or	

combination of options for a specific enclosure size is available on request.

NMG Series Magnetic Line Starters and **Enclosures**

600VAC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Ordering Information

To order an enclosure complete with starter, insert the manufacturer's symbol in the designated position of the catalog number. Symbols are shown in the footnote at the bottom of this page. Specify HP, voltage, frequency, RPM, type and full load ampere rating of motor – or specify ampere rating of heaters.

Starters are furnished with three heaters. Enclosures only can be ordered. Select from listings.

Single-Speed, Non-Reversing

Motor Start	er		Enclosure		
Max. HP	Volts	NEMA	With	Without	
Polyphase	(AC)	Size	Starter Cat. #	Starter Cat. #	
2	120	0	NMG0710 ①6130	NMG0710	
3	120	1	NMG0710 ①6131	NMG0710	
3	240	0	NMG0710 ①6230	NMG0710	
5	480	0	NMG0710 ①6430	NMG0710	
5	600	0	NMG0710 ①6530	NMG0710	
71/2	120	2	NMG0714 ①6132	NMG0714	
71/2	240	1	NMG0710 ①6231	NMG0710	
10	480	1	NMG0710 ①6431	NMG0710	
10	600	1	NMG0710 ①6531	NMG0710	
15	120	3	NMG1018 ①6133	NMG1018	
15	240	2	NMG0714 ①6232	NMG0714	
25	480	2	NMG0714 ①6432	NMG0714	
25	600	2	NMG0714 ①6532	NMG0714	
30	240	3	NMG1018 ①6233	NMG1018	
50	240	4	NMG1024 ①6234*	NMG1024	
50	480	3	NMG1018 ①6433	NMG1018	
50	600	3	NMG1018 ①6533	NMG1018	
100	480	4	NMG1024 ①6434*	NMG1024	
100	600	4	NMG1024 ①6534*	NMG1024	

*NEMA Size 4 Allen-Bradley starter must be in NMG1426 enclosure.

① Motor Starters:

Manufacturer	Symbol
Allen-Bradley	AB
Square D	D
Cutler-Hammer	С
General Electric	G
Westinghouse	W

Information on other starter manufacturers on request.

Ordering Information when adding options

When adding options to NMG series enclosures, the base catalog number must be changed according to the table below.

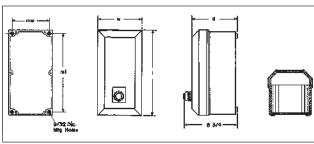
NEMA Size	Enclosure Cat. #	Enclosure w/Options		
0, 1	NMG0710	NMG0714		
2	NMG0714	NMG1018		
3	NMG1018	NMG1024		
4	NMG1024	NMG1426		

Example: A NEMA size 4, 480 V Westinghouse starter with START-STOP pushbuttons would be Cat. No. NMG1426-W6434-PB13.

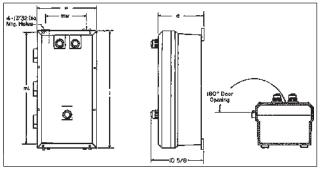
Note on Hubs: The following number and sizes of hubs (not mounted) are included when magnetic starters are ordered complete. If enclosures only are ordered, hubs must be ordered separately (see "Options").

Starter Size	Number Included	Hub Size
0	3	3/4
1	1 2	³ / ₄ 1
2	1 2	³ / ₄ 1 ¹ / ₂
3	1 2	³ / ₄ 2
4	1 2	3/ ₄ 21/ ₂

Dimensions† In Inches:



NMG0710 & 0714



NMG1018 & 1024

	Outside Dimensions			Mounting Dimensions		
Enclosure Cat. #	I	W	d	ml	mw	
NMG0710	101/2	71/2	7	93/8	6³/ ₈	
NMG0714	141/2	71/2	7	133/8	6³/ ₈	
NMG1018	1913/32	1113/32	823/32	193/8	77/8	
NMG1024	2513/32	11 ¹³ / ₃₂	8 ²³ / ₃₂	253/8	77/8	

†Not to be used for construction purposes unless approved.

Circuit Breakers Hazardous

Description	Page No.
Application/Selection	see page 492
Auxiliary Circuit Breakers & Enclosures	
EFD, EFDC Series	see page 507
Thermal Magnetic Circuit Breakers & Enclosures	_
General Information and Dimensions	
EPC Series	see pages 498-499
FLB Series	see page 502
EBMB Series	see pages 494–497
Non-Interchangeable Trip	
100 / 150 ampere frame	
EPC Series	see page 500
FLB Series	see page 503
EBMB Series	see pages 494-495
EIB Series	see page 493
NCB Series	see page 508
225 / 250 ampere frame	
FLB Series	see page 506
EBMB Series	see pages 494-495
NCB Series	see page 508
400 ampere frame	
EBMB Series	see pages 494-495
Interchangeable Trip	
225 / 250 ampere frame	
FLB Series	see page 506
EBMB Series	see pages 494–495
400 ampere frame	. •
EBMB Series	see pages 494-495
NCB Series	see page 508
600 / 800 ampere frame	
EBMB Series	see pages 494-495
1000 ampere frame	
EBMB Series	see pages 494-495
	pages 100

Application and Selection Ouick Selector Chart

Applications:

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Circuit breakers and their appropriate enclosures are used:

- In conjunction with service entrance, lighting, heating, appliance and motor protection circuits
- To provide disconnect means
- For short circuit protection and thermal time delay overload protection
- In various types of damp, wet, corrosive and hazardous areas

Considerations for Selection:

Considerations for selection of proper enclosure:

- The environment of the enclosure location in terms of NEC/CEC compliance and NEMA/EEMAC type required
- The size and type of circuit breaker required for the particular application
- See "Quick Selector" below for guidance

Options:

Many options are available on:

- Material and finishes where special atmospheric conditions prevail
- Special features for specific applications. See individual listings for available options

Quick Selector Chart

Enclos	Enclosures for Circuit Breakers								
			Circuit Bre	eaker					
Encl.	NEC/CEC – Hazardous Area Certifications and Compliances	NEMA/ EEMAC Encl. Type	Туре	Ampere Rating Range	Voltage Range	Manufacturer and Frame Size	No. of Poles	Inter- change- able Trip	Enclosure Cover Construction
EFD, EFDC	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7BCD, 9EFG	Thermal- Magnetic	15–30	120AC	Sq. D – QOU	1	No	Bolted/ Ground Joint
EBMB	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3R, 4, 7BCD, 9EFG, 12	Thermal- Magnetic	15–800	120AC to 600AC 125DC to 250DC	G.E. – TEB, TED, TFJ, TFK, TJJ, TJK, TKMA Sq. D – FAL, KAL, LAL, MAL CutHam. – EHD, FD, FDB, JD, JDB, KD, KDB,	1, 2, 3	Yes	Bolted/ Ground Joint/ Gasketed
EPC	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div, 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 4, 7CD, 9EFG	Thermal- Magnetic	15–150	120AC to 600AC 125DC to 250DC	G.E. – TEB, TED, TFJ Sq. D – FAL, KAL CutHam. – EHD, FD, FDB, JD, JDB	1, 2, 3	Yes	Threaded
FLB	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7CD, 9EFG	Thermal- Magnetic	15–225	120AC to 600AC 125DC to 250DC	G.E. – TEB, TED, TFJ, TFK Sq. D – FAL, KAL CutHam. – EHD, FD, FDB, JD, JDB	1, 2, 3	Yes	Threaded
EIB	Cl. I, Div. 1 & 2, Groups B, C, D Cl. I, Zones 1 & 2 Cl. II, Div. 1, Groups E, F, G Cl. III	3, 3R, 4, 7BCD, 9EFG	Magnetic	15–100	480AC to 600AC	Cut. Ham. – EG	3	No	Bolted/ Ground Joint
NCB	N/A	3, 4X, 12	Thermal- Magnetic	15-400	240AC to 600VAC 250DC	G.E. – TEB, TED, TFJ Sq. D – FAL, KAL, LAL CutHam. – EB, EHB, EHD, FD, FDB, JD, JDB	2, 3	Yes	Hinged, screw and gasket

EIB Series

Compact Circuit Breaker Assemblies With Covers

Cl. I, Div. 1 & 2, Groups B, C, D Cl. I, Zones 1 & 2 Cl. II, Div. 1, Groups E, F, G CI. III NEMA 3. 3R. 4. 7BCD. 9EFG

Suffix

UL Standard: 1203 cUL to CSA C22.2 No. 30

The EIB Series Compact Circuit Breaker Assemblies are an innovative line of explosionproof motor control now being offered by Eaton's Crouse-Hinds. The EIB series utilizes the EJB style D enclosure with its bolted construction, NEMA 4 environmental protection and Class I, Division 1, Group B, C and D hazardous area ratings. The EIB series is a costeffective solution for circuit breaker protection and utilizes the Cutler-Hammer Type EG circuit breakers. Circuit breaker protection is available from 15 to 100 amps.

Features:

- Small compact footprint requires less mounting space and reduces enclosure
- Rotary handle operator mounted on cover assembly provides clear indication of on, off and trip positions
- No internal fork operator, eliminating potential damage to breaker toggle
- Trip position easily identified from a distance
- Neoprene cover gasket provides UL Type 4 (hosetight) environmental rating
- Detachable mounting feet offer flexible mounting alternatives - no need to replace the entire enclosure if a mounting foot is broken
- Stainless steel hinges provide extreme durability and easy access to inside of enclosure for wiring and maintenance
- (2) 11/2" NPT conduit entries, one on top and one on bottom for easy top or bottom feed of conductors. For field addition of breather and/or drain; holes come plugged

Certifications and Compliances:

- Class I, Divisions 1 & 2, Groups B, C & D
- Class I, Zones 1 & 2
- · Class II, Division 1, Groups E, F and G
- Class III
- Enclosure type 3, 3R, 4, 7BCD, 9EFG
- NEMA 3, 3R, 4, 7BCD, 9EFG
- UL Standard 1203
- cUL to CSA C22.2 No. 30

Standard Materials:

- Body and Cover Copper-free aluminum
- Gasket Neoprene
- Cover Bolts Steel
- Hinges Stainless Steel
- Mounting Plate Sheet Aluminum

Finishes:

- Copper-free Aluminum Natural
- Steel Electrogalvanized

Connectors for 50, 100 & 225

Grounded Neutral Lug Kit with

Options:

Description

Amps
External Ground Stud S178 Breather and Drain \$756V Epoxy Powder Coat Finish (exterior only) S752 Epoxy Powder Coat Finish (exterior and interior) S753

Insulated Neutral Lug \$146

Ordering Information

Ordering Information						
Circuit						
Breaker						
Rating (amps)	Enclosure Only	Enclosure with Circuit Breaker				
15	EIBA	EIBA3015				
20	EIBA	EIBA3020				
25	EIBA	EIBA3025				
30	EIBA	EIBA3030				
35	EIBA	EIBA3035				
40	EIBB	EIBB3040				
45	EIBB	EIBB3045				
50	EIBB	EIBB3050				
60	EIBB	EIBB3060				
70	EIBB	EIBB3070				
80	EIBB	EIBB3080				
90	EIBB	EIBB3090				
100	EIBB	EIBB3100				

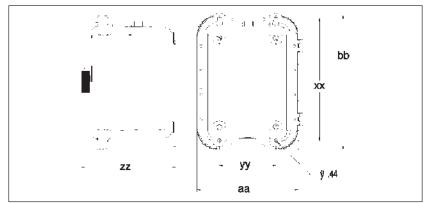
Electrical Ratings:

- 600V maximum
- 3 poles
- Ampere Interrupting Capacity:
 - All EIB enclosures are rated to 10k AIC
 - Eaton Type EG Breaker AIC ratings:
 - 240V: 35k AIC
 - 480V: 25k AIC
 - 600V: 18k AIC

Weights:

EIBA 39 lbs. EIBB 58 lbs.

Dimensions In Inches:



Dimension	Size A	Size B
aa	10.47"	12.53"
bb	12.47"	16.53"
XX	11.13"	15.13"
уу	5.0"	7.0"
ZZ	9.6"	11.66"
Mounting Holes	7/ ₁₆ "	7/ ₁₆ "

3C

EBMB Series Circuit Breakers and Enclosures

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Applications:

Spectrum™ EBM hinged cover motor control enclosures are used:

- For general motor control and circuit protection indoors and outdoors - in damp, wet, dirty, dusty hazardous locations without the need for a protective shelter.
- · In areas where frequent washdowns are necessary or where heavy rain or water spray is prevalent.
- · To provide line disconnect means and short circuit protection.
- For service entrance, feeder or branch circuit protection for lighting, heating, appliance and motor circuits.
- On switchracks or other assemblies where it's desired that motor control be centrally located.

Features:

- Rugged, corrosion resistant, cast copper-free aluminum construction (less than 0.4 of 1%).
- Circuit breaker operating handle located through the right side wall of the body permits visual confirmation of correct component assembly and operation.
- Total compliance to the wiring end room requirements of the National Electrical Code®.
- · Semi-clamshell enclosure design, with an external flanged ground joint between body and cover makes interior components more
- · Minimum enclosure-to-enclosure spacing with little interference between the opened cover and an adjacent enclosure.
- · Copper-free aluminum hinges allow the cover to swing well out of the way.
- · Stainless steel, quick release, captive, hex head cover bolts. Stainless steel springs provide clear indication cover bolts are fully retracted from body.
- · Versatile, internal operating mechanisms allow for field adjustment to accommodate popular manufacturers' breakers.
- Simple, straightforward installation of breaker on pre-drilled mounting plate within enclosure. Mounting plate also field removable.
- · Circuit breaker external operating handle can be padlocked in either "ON" or "OFF" positions.
- Neoprene cover gasket permanently attached to the cover seals out moisture.
- · Bodies have top and bottom drilled and tapped entrances for power conduits and control conduits. Removable reducers are supplied, as standard, to accommodate smaller size conduits. All conduit entrances are plugged.
- Tap-on mounting feet.
- Optional EMPS control devices may be added to enclosure cover.
- · Steel bracket for lifting larger enclosures during installation supplied as standard.



Spectrum EBM motor control enclosures accommodate popular makes of circuit breakers.

Certifications and Compliances:

NEC/CEC:

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standards UL1203 Hazardous (classified) locations/CSA Standards: C22.2 No. 30
- UL Subject 2062 High AIC rating (Interrupting Capacity) For Groups C & D only

240V 65,000 RMS Symm. Amperes 50,000 RMS Symm. Amperes 600V 25,000 RMS Symm. Amperes

• NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Standard Materials:

- Body and cover copper-free aluminum
- Operating handle copper-free aluminum
- · Operating shaft and bushing stainless steel
- Interior parts sheet steel, electrogalvanized
- · Cover bolts, washers and retractile springs stainless steel

Electrical Rating Ranges:

• Circuit breakers - 100, 150, 225, 250, 400, 600, 800, 1000* ampere frame sizes

[‡]Enclosure not suitable for NEMA 4 or 4X with cover mounted operators.

^{††}With S752 or S753.

^{*1000} Ampere Frame (max. 800 ampere trip)
National Electrical Code is a Registered Trademark of The National Fire Protection Association.

3C

EBMB Series Circuit Breakers and Enclosures

CI. I, Div. 1 & 2, Groups B, C, D
CI. II, Div. 1, Groups E, F, G
CI. II, Div. 2, Groups F, G
CI. III
NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

Options:

The following options are available from factory by adding suffix to catalog number. Suffixes are added alphanumerically.

Catalog Number System

EBMBB-①-WT30FDB36-②

- ① Options in this position are additions to the enclosure and should be listed alphanumerically.
- ② Options in this position are modifications to the circuit breaker and should be listed alphanumerically.

	sition Cat. #	Suffix
Ambient compensated circuit breaker trip setting	2	AC
Pilot light, 120VAC, red jewel, w/blank indicating plate	1	J1†
Pilot light, 120VAC, green jewel, w/blank indicating plate		J3 †
LED pilot lights in place of standard incandescent pilot lamps	1	LED
Start-stop pushbuttons (requires 2 spaces) Space heater, 120 volt, 25 watts		PB23 †‡ R11
Space heater, 240 volt, 25 wattsSpace heater, 480 volt, 25 watts		R22 R44
Insulated neutral w/2 connectors Grounded neutral stud w/3 connectors		S146
(50, 100, 225 amp) • Std. drain, Class I, B, C & D; Class II, E F & G,	1	S178
• Std. breather & drain, Class I, B, C & D; Class II, • Std. breather & drain, Class I, B, C & D; Class II,	1	S756 ‡
E, F & G; Class III		S756V ‡
External epoxy finish Internal and external epoxy finish		S752 S753
Aux. switch on circuit breaker, 1A & 1B contacts	2	S784
Aux. switch on circuit breaker, 2A & 2B contacts	2	S785
 12 point term. block – 30 amp, 300 V General purpose control relay, 4 pole N.O., contacts rated 10A @ 600V, coil 120VAC, 50–60 	1	S786
Hertz	1	S787



EBMB Series circuit breaker enclosures are available with breakers from 100 to 1000* amp frame sizes.

†If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings and DSL Legend Plate listings see page 449. ‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

^{*1000} Ampere Frame (max. 800 ampere trip.)

EBMB Series Circuit Breakers Cl. I, Div. 1 & 2, Groups B, C, D **3C** and Enclosures

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof Dust-Ignitionproof Raintight Wet Locations NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Ordering Information:

- To order an enclosure complete with circuit breaker, insert the manufacturer's symbols in the designated positions of the catalog number. Symbols are shown below.
- · Enclosures can be ordered without circuit breakers. Select from listings below.

EBMB Series Enclosures for Circuit Breakers

Circuit I	Breaker		Enclosures			
Poles⊕	Voltage Rating	Circuit Breaker Frame Size	Without Circuit Breaker Cat. #		Circuit Breaker Amp Rating	With Circuit Breaker Cat. #
3	240VAC or 125-250VDC	100 Amp. Frame	EBMBA	*	15A through 70A	EBMBA TT@TEB32
3	240VAC or 125-250VDC	150 Amp. Frame	EBMBA	† §	10A through 70A	EBMBA TT©TEB32
3	480VAC or 250VDC	100 Amp. Frame	EBMBA	*	15A through 70A	EBMBA 102334
3	480VAC or 250VDC	150 Amp. Frame	EBMBA	† §	10A through 70A	EBMBA TT@TED34
3	600VAC	150 Amp. Frame	EBMBA	† § =	10A through 70A	EBMBA 102336
3	240VAC or 125-250VDC	100 Amp. Frame	EBMBB	*	15A through 100A	EBMBB TT@TEB32
3	240VAC or 125-250VDC	150 Amp. Frame	EBMBB	† §	10A through 150A	EBMBB TT©TEB32
3	480VAC or 250VDC	100 Amp. Frame	EBMBB	*	15A through 100A	EBMBB 102334
3	480VAC or 250VDC	150 Amp. Frame	EBMBB	† §	10A through 150A	EBMBB TT@TED34
3	600VAC	150 Amp. Frame	EBMBB	† § =	15A through 150A	EBMBB 102336
3	600VAC	250 Amp. Frame	EBMBG	₩ 🛦	70A through 250A	EBMBG 12336
3	600VAC or 250VDC	400 Amp. Frame	EBMBK	▼	100A through 400A	EBMBK 102336
3	600VAC or 250VDC	600 Amp. Frame	EBMBL	•	250A through 600A	EBMBL WT2336
3	600VAC or 250VDC	800 Amp. Frame	EBMBL	♥	300A through 800A	EBMBL WT2336

①Circuit Breakers:

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Manufacturer	Symbol
Cutler-Hammer	WT
General Electric	TT

2 Select Trip Setting from below:

© Select Injp Setting from Delow:

100 Amp Frame (EHD)* – 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100

150 Amp. Frame (TDB, TEB, TED)†\$■ – 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150

225 / 250 Amp Frame (JD, JDB, TFJ, TFK) ▲ – 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250

400 Amp. Frame (KD, KDB, TJJ, TJK)▼ – 100, 125, 150, 175, 200, 225, 250, 300, 350, 400

600 Amp. Frame (LD, TJK)♣ – 250, 300, 350, 400, 450, 500, 600

800 Amp Frame (MD, TKMA)▼ – 300, 350, 400, 450, 500, 600, 700, 800

③Select Circuit Breaker Frame Type based on frame size, voltage, and manufacturer desired:

Manufacturer	100 Amp. 240VAC	Frame 480VAC	600VAC	150 Amp. 240VAC	Frame 480VAC	600VAC	250 Amp. Frame ② ▲ 600VAC		600 Amp. Frame 600VAC	800 Amp. Frame 600VAC
Cutler-Hammer	_	EHD	_	_	_	FDB	JD¢ JDB 	KD¢ KDB 	LD	MD
General Electric	TEB	_	_	_	TED	TED	TFK¢ TE.I-å	TJK¢ T.I.I.♣	TJK	TKMA

♣-Non-Interchangeable Trip Unit

* EBMBA will accept 10 through 70 amp. trip, EBMBB will accept 13 through 100 amp. trip.

§ Beneral Electric TEB frame available 10 through 100 amp. trip. TED frame available 10 through 150 amp. trip.

§ General Electric TEB frame available 10 through 100 amp. trip. TED frame available 10 through 150 amp. trip.

© General Electric TEJ and TFK types are 225 amp. frame, available 70 though 225 amp. trip.

& Westinghouse JD and JDB types are 250 amp. frame, available 70, 90, 100 and 125 through 250 amp. trip.

Vestinghouse KD and KDB frames available 100 through 400 amp. trip. Swestinghouse LD frame available 300 through 400 amp. trip.

Westinghouse LD frame available 300 through 400 amd 500, 600 amp. trip.

Westinghouse MD frame available 400 and 500 through 800 amp. trip.

[‡] Enclosure not suitable for NEMA 4 or 4X with cover mounted operators.

^{††}With S752 or S753.

Depending on availability from the circuit breaker manufacturer 1 and 2 pole can be furnished. Information available upon request. Example of an adjusted part number - EBMBB

WT100EDH34 becomes EBMBB WT100EDH24.

* EBMBA will accept 15 through 70 amp. trip, EBMBB will accept 15 through 100 amp. trip.

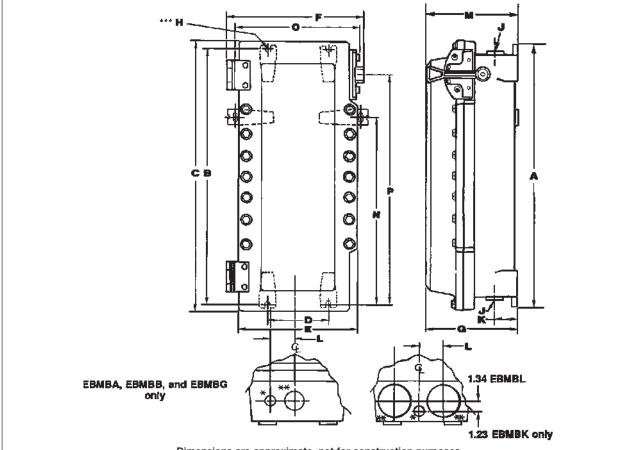
EBMB Series Circuit Breakers and Enclosures

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12 Watertight

Dimensions

In Inches:



Dimensions are approximate, not for construction purposes.

Enclosure	Enclosure								J** Co							
Only	Size	Dimer	isions						Size		Dime	ension	S			
Cat. #	Symbol	Α	В	С	D	E	F	G	D&T§	w/RE	K	L	M	N	0	Р
100 Amp F	rame															
EBMBA	Α	18.25	17.25	19.40	6.00	13.03	14.78	10.25	2"	1.5"	3.25	3.13	10.25	_	_	14.50
100 and 15	0 Amp Frame	;														
EBMBB	В	25.75	24.75	26.90	6.00	13.03	14.78	10.25	2"	1.5"	3.25	3.13	10.25	_	_	22.00
225 and 25	0 Amp Frame	•														
EBMBG	G	37.50	36.50	39.28	6.00	13.03	14.78	10.25	3.0"	2.5"	3.25	3.13	10.25	_	_	34.06
400 Amp F	rame															
EBMBK	K	43.12	41.50	42.65	12.00	17.65	20.28	10.92	(2)3"	(2)2.5"	3.25	3.00	10.92	_	_	29.23
600, 800 an	d 1000 Amp	Frame†														
EBMBL	L	53.25	51.50	53.28	12.00	17.90	20.58	13.03	(2)4"	(2)3.5"	4.00	3.50	13.13	41.50	18.40	29.88

^{* 1&}quot; Drilled & Tapped (D & T) conduit entry for control conductors supplied with PLG plug top and bottom.

** Conduit entrance(s) for power conductors (top and bottom). (All conduit entrance(s) supplied with RE reducer and PLG plug.)

*** Use ½" diameter bolts for mounting all enclosures. (see H) Note: Lifting bracket will accommodate a maximum 2 ton hook.

^{†1000} Ampere Frame (max. 800 ampere trip) ‡Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. Breather and drain entries must be plugged for NEMA 4 rating.

^{††}With S752 or S753. §Drilled & Tapped.

3C

EPC Series Circuit BreakersCl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. III, Div. 1, Groups E, F, G Cl. III, Div. 1 & Creams F. C. Cl. IIII, Div. 1 & Creams F. C. Cl. III, Div. 1 & C. Cl

Cl. I, Div. 1 & 2, Groups C, I Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7CD, 9EFG Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

Applications:

EPC Circuit Breakers and Enclosures are used:

- For service entrance*, feeder or branch circuit protection for lighting, heating, appliance and motor circuits
- In areas made hazardous due to the presence of flammable vapors, gases or combustible dusts
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical or petrochemical plants and other process industry facilities where similar hazards exist
- To provide disconnect means, short circuit protection and thermal time delay overload protection

Features:

- Quick-opening covers less than two turns to remove or install
- Three section design for ease of installation
- Water-shedding construction with female threads on top cover, male threads on bottom cover, and top cover skirted
- Specially located stops and locks insure adequate thread engagement and prevent overtightening
- Separate replaceable mounting bracket attached to the rear of the body provides three-point suspension for quick installation and leveling – one keyhole slot at top and two open slots at bottom
- Bodies have two taper-tapped conduit hubs with integral bushings on the top, and two more directly below
- Mounting plates are supplied with all necessary holes and hardware to attach any of the circuit breakers shown in the catalog listings. Breaker and interior mounting frames are easily removed as a unit, providing free access to the wiring chamber
- Breaker is operated by an external handle which can be padlocked in either "ON" or "OFF" positions by as many as three padlocks. Breaker is trip-free of the handle and will open under short circuit or overload, even if the handle is locked in the "ON" position

Certifications and Compliances:

NEC/CEC

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA: 3, 4, 7CD, 9EFG
- UL Standard: 698
- CSA: C22.2 No. 30

Standard Materials:

- Bodies and covers copper-free aluminum
- Operating handles copper-free aluminum
- Operating shafts stainless steel
- Interior parts sheet steel

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel electrogalvanized



Options:

The following special options are available from factory by adding suffix to Cat. #:

Same to Sat. 11.	
Description	Suffix
Auxiliary Switch‡	
1A/1B (1P2T)	S784
2A/2B (2P2T)	
Insulated neutral with 2 connectors (100, 150 and 225 a	
Grounded neutral stud with 3 connectors (100, 150 and	
amp.)	S178
Side bosses drilled and tapped same size as standard l	
Back boss drilled and tapped same size as standard hu	
Standard Breather (Class I, Groups C, D; Class II, Groups C, D)	
F, G; Class III)	
Standard Drain (Class I, Groups C, D; Class II, Groups I	
G; Class III)	
Standard Breather and Drain (Class I, Groups C, D; Cla	
· · · · · · · · · · · · · · · · · · ·	
Groups E, F, G; Class III)	
Universal Breather-Drain (Class I, Groups C, D; Class II	
Groups F, G)	
(2) Universal Breather-Drains (Class I, Groups C, D; Cla	
Groups F, G)	S454V§

Electrical Rating Ranges:

• 100, 150, 225, 250 ampere frame sizes

*Suffix S146 insulated material must be used to comply with NEC requirements for service entrance. ‡Application is limited by circuit breaker design – Consult Factory.

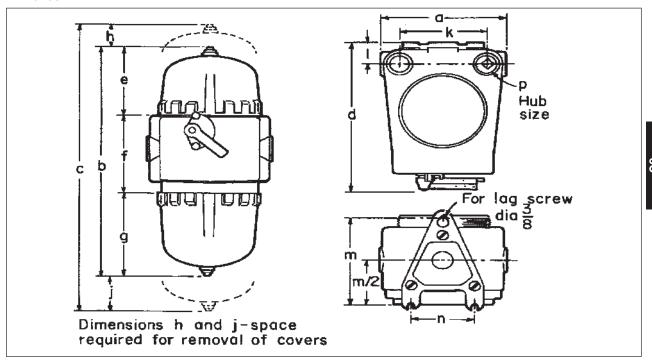
3C

EPC Series Circuit Breakers and Enclosures

Cl. I, Div. 1 & 2, Groups C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG

Dust-Ignitionproof Raintight Wet Locations Watertight

Dimensions In Inches*



	EPC377	EPC387
Int. Dia.	7"	7"W
a	10 ⁵ / ₈	1213/16
b	1913/16	1913/16
С	2313/16	2313/16
d	143/8	143/8
е	63/4	63/4
f	711/16	711/16
g	53/8	53/8
ĥ	2	2
j	2	2
k	7 ³ / ₈	91/4
1	21/16	21/16
m	93/8	93/8
n	51/4	51/4
р	11/4	2

^{*}Dimensions are approximate, not for construction purposes.

3C EPC Series Circuit Breakers and Enclosures

100/150A Frame, Thermal Magnetic, 120–240 VAC, 125–250 VDC Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Ordering Information:

To order an enclosure complete with circuit breaker where there is a choice of manufacturer, insert the manufacturer's symbol in the designated position of the catalog number.

Enclosures only can be ordered. Select from listings.

Non-Interchangeable Trip

Circuit Breaker		Enclosure							
Poles	Voltage Rating	Int. Dia.	Hub Size	Circuit Bkr. Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. Cat. #			
2	240VAC or 125-250VDC	7	11//4	15 20 30 40 50 70 90	EPC377	EPC377 ①15EB 2 EPC377 ①20EB 2 EPC377 ①30EB 2 EPC377 ①40EB 2 EPC377 ①50EB 2 EPC377 ①70EB 2 EPC377 ①90EB 2 EPC377 ①100EB 2			
I		7W	2	70 90 100	EPC387	EPC387 ① 70EB 2 EPC387 ① 90EB 2 EPC387 ① 100EB 2			
3	240VAC*	7	11/4	15 20 30 40 50 70 90	EPC377	EPC377 ①15EB 3 EPC377 ①20EB 3 EPC377 ①30EB 3 EPC377 ①40EB 3 EPC377 ①50EB 3 EPC377 ①70EB 3 EPC377 ①99EB 3 EPC377 ①100EB 3			
*Square D 2	240VAC/125-250VDC	7W	2	70 90 100	EPC387	EPC387 ① 70EB 3 EPC387 ① 90EB 3 EPC387 ① 100EB 3			

Circuit Breakers			
Manufacturer	Frame	Symbol	
General Electric	TEB	TT	
Cutler-Hammer	FD	W/T	

EPC Series Circuit Breakers and **Enclosures**

100/150A Frame, Thermal Magnetic, 480–600 VAC, 250 VDC

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Non-Interchar	ngeable Trip
Circuit Breaker	Enclosure

				Circuit Bkr.			
Poles	Voltage Rating	Int. Dia.	Hub Size	Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. Cat. #	
2	480VAC or 250VDC	7	11/4	15 20 30 40 50 70 90 100	EPC377	EPC377 ①15EHD 2 EPC377 ①20EHD 2 EPC377 ①30EHD 2 EPC377 ①40EHD 2 EPC377 ①50EHD 2 EPC377 ①70EHD 2 EPC377 ①90EHD 2 EPC377 ①100EHD 2	
		7W	2	70 90 100	EPC387	EPC387 ①70EHD 2 EPC387 ①90EHD 2 EPC387 ①100EHD 2	
3	3 480VAC	7	11/4	15 20 30 40 50 70 90 100	EPC377	EPC377 ①15EHD 3 EPC377 ①20EHD 3 EPC377 ①30EHD 3 EPC377 ①40EHD 3 EPC377 ①50EHD 3 EPC377 ①70EHD 3 EPC377 ①90EHD 3 EPC377 ①100EHD 3	
		7W	2	70 90 100	EPC387	EPC387 ①70EHD 3 EPC387 ①90EHD 3 EPC387 ①100EHD 3	
2	600VAC or	7	11/4	15 20 30 40 50 70 90 100	EPC377	EPC377 ②15FDB 2 EPC377 ②20FDB 2 EPC377 ②30FDB 2 EPC377 ②40FDB 2 EPC377 ②50FDB 2 EPC377 ②70FDB 2 EPC377 ②90FDB 2 EPC377 ②100FDB 2	
	250VDC		7W	2	70 90 100 110 125 150	EPC387	EPC387 @70FDB 2 EPC387 @90FDB 2 EPC387 @100FDB 2 EPC387 @110FDB 2 EPC387 @125FDB 2 EPC387 @150FDB 2
3	600VAC	7	11/4	15 20 30 40 50 70 90 100	EPC377	EPC377 ②15FDB 3 EPC377 ②20FDB 3 EPC377 ②30FDB 3 EPC377 ②40FDB 3 EPC377 ②50FDB 3 EPC377 ②70FDB 3 EPC377 ②90FDB 3 EPC377 ②100FDB 3	
	3 600VAC	7W	2	70 90 100 100 125 150	EPC387	EPC387 @70FDB 3 EPC387 @90FDB 3 EPC387 @100FDB 3 EPC387 @110FDB 3 EPC387 @125FDB 3 EPC387 @150FDB 3	

① Circuit Breakers Manufacturer	Frame	Symbol
General Electric	TED	TT
Cutler-Hammer	EHD	WT

② Circuit Breakers Manufacturer	Frame	Symbol
General Electric	TED	TT
Cutler-Hammer	FD, FDB	WT

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

Applications:

FLB circuit breakers and enclosures are

- For service entrance, feeder or branch circuit protection for lighting, heating, appliance and motor circuits
- In areas made hazardous due to the presence of flammable vapors, gases or combustible dusts
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To provide disconnect means, short circuit protection and thermal time delay overload protection

Features:

- Semi-cylindrical body shape for maximum strength at lowest practical weight
- Round threaded covers at each end, set at an angle to provide ready access to interior for ease of wiring
- Breaker is operated by an external handle which can be padlocked in either "ON" or "OFF" positions. Breaker is tripfree of the handle and will open under short circuit or overload even if the handle is locked in the "ON" position
- Bodies have vertical through feed conduit hubs of sizes given in the listings

Certifications and Compliances:

NEC/CEC

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 7CD, 9EFG
- UL Standard: 698
- CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies, covers and operating handles copper-free aluminum
- Operating shafts stainless steel
- Interior parts sheet steel

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel zinc electroplate with chromate finish

Electrical Rating Ranges:

• 100 and 225 ampere frame sizes



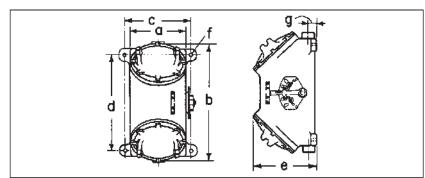
Options:

The following special options are available from factory by adding suffix to Cat. #:

Description	Suffix
2 lugs for neutral connections (50, 100 and 225 amp.)	S146
Ground neutral stud with 3 connectors (50, 100 and 225 amp.)	S168
Standard Breather (Class I, Groups C, D; Class II, Groups E, F, G; Class III)	S219
Standard Drain (Class I, Groups C, D; Class II, Groups E, F, G; Class III)	S198
Standard Breather and Drain (Class I, Groups C, D; Class II, Groups E, F, G; Class III)	S198V
Universal Breather - Drain (Class I, Groups C, D; Class II, Groups F, G)	S454*
(2) Universal Breather - Drains (Class I, Groups C, D; Class II, Groups F, G)	S454V*
Specify Auxiliary Switch‡	
1A/1B (1P2T)	S784
2A/2B (2P2T)	S785

Dimensions

In Inches§:



Cat. #	а	b	С	d	е	f	g
†FLB140, 220, 221	51/4	101/4	61/4	71/4	7	7/16	11/8
FLB115, 141, 147, 148, 171, 172, 173, 175, 222, 361, 116, 142, 149, 174, 177, 223, 362	71/2	13³/ ₈	81/2	93/4	91/8	⁷ / ₁₆	13/4
FLB224, 225, 264, 265, 267, 346	13³/₄	221/2	16¹/₄	97/8	15½	21/32	27/16

^{*}Not suitable for NEMA 4/EEMAC.

†With two mounting feet, one at upper right and one at lower left. ‡Application is limited by circuit breaker design – Consult Factory. §Dimensions are approximate, not for construction purposes.

3C

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FLB Series Circuit Breakers and **Enclosures**

100A Frame, Thermal Magnetic, 120 VAC/125 VDC, 240 VAC/250 VDC Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Ordering Information:

To order an enclosure complete with circuit breaker where there is a choice of manufacturer, insert the manufacturer's symbol in the designated position of the catalog number.

Enclosures only can be ordered. Select from listings.

100 Ampere Frame Size with Non-Interchangeable Trip 240VAC Max.

Circuit B	Breaker	Enclosur	е		
Poles	Voltage Rating	Hub Size	Circuit Bkr. Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. General Electric "TEB" Cat. #
1	120VAC or 125VDC	3/4	15 20 30 40 50	FLB220	FLB220 TT15 1 FLB220 TT20 1 FLB220 TT30 1 FLB220 TT40 1 FLB220 TT50 1
240VAC 2 or	1	15 20 30 40 50	FLB221	FLB221 TT15 2 FLB221 TT20 2 FLB221 TT30 2 FLB221 TT40 2 FLB221 TT50 2	
	125–250VDC	5–250VDC 1½	70 90 100	FLB223	FLB223 TT70 2 FLB223 TT90 2 FLB223 TT100 2
3 240VAC	240VAC	11/4	15 20 30 40 50	FLB222	FLB222 TT15 3 FLB222 TT20 3 FLB222 TT30 3 FLB222 TT40 3 FLB222 TT50 3
		11/2	70 90 100	FLB223	FLB223 TT70 3 FLB223 TT90 3 FLB223 TT100 3

100A Frame, Thermal Magnetic, 120-480 VAC, 125-250 VDC

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G CI. III

NEMA 3, 4, 7CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

100 Ampere Frame Size with Non-Interchangeable Trip 480VAC Max.

Circuit	<u>Breaker</u>	Enclosi	ıre			
Poles	Voltage Rating	Hub Size	Circuit Bkr. Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. Cutler-Hammer "EHD" Cat. #	With Circuit Breaker General Electric "TED" Cat. #
2	480VAC or 250VDC	1	15 20 30 40 50	FLB140	FLB140 WT15 2 FLB140 WT20 2 FLB140 WT30 2 FLB140 WT40 2 FLB140 WT50 2	FLB140 TT15 2 FLB140 TT20 2 FLB140 TT30 2 FLB140 TT40 2 FLB140 TT50 2
I	230000	11/2	70 90 100	FLB142	FLB142 WT70 2 FLB142 WT90 2 FLB142 WT100 2	FLB142 TT70 2 FLB142 TT90 2 FLB142 TT100 2
3	480VAC	11/4	15 20 30 40 50	FLB141	FLB141 WT15 3 FLB141 WT20 3 FLB141 WT30 3 FLB141 WT40 3 FLB141 WT50 3	FLB141 TT15 3 FLB141 TT20 3 FLB141 TT30 3 FLB141 TT40 3 FLB141 TT50 3
		11/2	70 90 100	FLB142	FLB142 WT70 3 FLB142 WT90 3 FLB142 WT100 3	FLB142 TT70 3 FLB142 TT90 3 FLB142 TT100 3

FLB Series Circuit Breakers and Enclosures

100A Frame, Thermal Magnetic, 600 VAC, 250 VDC

600VAC

3

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

FLB115 WT50 3

FLB116 WT70 3 FLB116 WT90 3 FLB116 WT100 3

Circuit Breaker		Enclosure					
Poles	Voltage Rating	Hub Size	Circuit Bkr. Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. Cutler-Hammer "FDB" Cat. #		
600VAC 2 or 250VDC	or	11/4	15 20 30 40 50	FLB115	FLB115 WT15 2 FLB115 WT20 2 FLB115 WT30 2 FLB115 WT40 2 FLB115 WT50 2		
	250VDC	11/2	70 90 100	FLB116	FLB116 WT70 2 FLB116 WT90 2 FLB116 WT100 2		
		11/4	15 20 30 40	FLB115	FLB115 WT15 3 FLB115 WT20 3 FLB115 WT30 3 FLB115 WT40 3		

100 Ampere Frame Size with Non-Interchangeable Trip 600VAC Max.

50 70

90

100

11/2

Circuit B	reaker	Enclosur	e Circuit Bkr.		
Poles	Voltage Rating	Hub Size	Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. General Electric "TED" Cat. #
			15		FLB361 TT15 3
			20		FLB361 TT20 3
		11/4	30	FLB361	FLB361 TT30 3
			40		FLB361 TT40 3
	600VAC		50		FLB361 TT50 3
			70		FLB362 TT70 3
		11/2	90	FLB362	FLB362 TT90 3
			100		FLB362 TT100 3

FLB116

3C FLB Series Circuit Breakers and Enclosures

225A Frame, Thermal Magnetic, 600 VAC, 250 VDC

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

100 Ampere Frame Size with Non-Interchangeable Trip 600VAC Max.

Circuit	breaker	Enclose	are		
Poles	Voltage Rating	Hub Size	Circuit Bkr. Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. Cutler-Hammer "JDB"† Cat. #
2	600VAC or 250VDC	21/2	125 150 175 200 225	FLB264	FLB264 WT125 2 FLB264 WT150 2 FLB264 WT175 2 FLB264 WT200 2 FLB264 WT225 2
3	600VAC	21/2	125 150 175 200 225	FLB264	FLB264 WT125 3 FLB264 WT150 3 FLB264 WT175 3 FLB264 WT200 3 FLB264 WT225 3
Poles	Voltage Rating	Hub Size	Circuit Bkr. Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. General Electric "TFJ" Cat. #
3	600VAC	21/2	125 150 175 200 225	FLB224 or FLB346	FLB224 TT125 3 FLB224 TT150 3 FLB224 TT175 3 FLB224 TT200 3 FLB224 TT225 3

100 Ampere Frame Size with Interchangeable Trip 600VAC Max.

Circuit	Breaker	Enclose	ure			
Poles	Voltage Rating	Hub Size	Circuit Bkr. Amp Rating	Without Circuit Bkr. Cat. #	With Circuit Bkr. Cutler-Hammer "JD"* Cat. #	With Circuit Bkr. General Electric "TFK" Cat. #
2	600VAC or 250VDC	3	125 150 175 200 225	FLB267	FLB267 WT125 2 FLB267 WT150 2 FLB267 WT175 2 FLB267 WT200 2 FLB267 WT225 2	
3	600VAC	3	125 150 175 200 225	FLB267 or FLB225	FLB267 WT125 3 FLB267 WT150 3 FLB267 WT175 3 FLB267 WT200 3 FLB267 WT225 3	FLB225 TT125 3 FLB225 TT150 3 FLB225 TT175 3 FLB225 TT200 3 FLB225 TT225 3

*Formerly "KB" †Formerly "JB"

EFD and EFDC Series Circuit Breakers and Enclosures

120VAC, Single Pole

CI. I, Div. 1 & 2, Groups B*, C, D
CI. II, Div. 1, Groups E, F, G
CI. II, Div. 2, Groups F, G
CI. III
NEMA 3, 7B*CD, 9EFG, 12

Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

EFD circuit breakers and enclosures are used:

- For branch circuit protection for lighting, appliance, and motor circuits
- In areas made hazardous due to the presence of flammable vapors, gases or combustible dusts
- In corrosive locations
- For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To provide disconnect means, short circuit protection and thermal time delay overload protection

Features:

- Small, compact enclosures with accurately ground, wide flange on both body and cover for flametight joint
- Dead-end (EFD) or through feed (EFDC) hubs 3/4" to 1" sizes
- Breaker mounted on cover and back wired for ease of installation
- Breaker can be padlocked in "ON" or "OFF" positions with trip-free handle mechanism

Certifications and Compliances:

• NEC:

Class I, Division 1 & 2, Groups B*, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• NEMA 3, 7B*CD, 9EFG, 12

Standard Materials:

- Bodies and covers Feraloy® iron alloy
- Operating handles type 6 / 6 nylon
- Operating shafts stainless steel

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Type 6 / 6 nylon black
- Stainless steel natural





EFDC through feed

Electrical Ratings:

- Single pole 120 / 240 VAC max.
- Trip ratings 15, 20 and 30 amp.

Options:

DescriptionSuffixFor use in Group B hazardous areas*GB

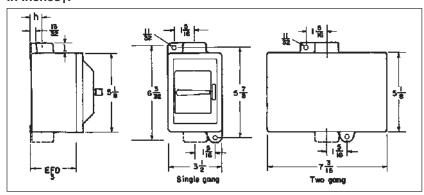
Ordering Information With Square D Type

With Square D Type "QOU" Circuit Breakers

Hub Size in.	15 Amp Cat. #	20 Amp Cat. #	30 Amp Cat. #					
EFD Single G	EFD Single Gang (Dead End)							
3/4	EFD21104	EFD21105	EFD21106					
1	EFD31104	EFD31105	EFD31106					
EFDC Single (Gang (Through Fe	ed)						
3/4	EFDC21104	EFDC21105	EFDC21106					
1	EFDC31104	EFDC31105	EFDC31106					
EFD Two Gan	g (Dead End)							
3/4	EFD22104	EFD22105	EFD22106					
1	EFD32104	EFD32105	EFD32106					
EFDC Two Gang (Through Feed)								
3/4	EFDC22104	EFDC22105	EFDC22106					
1	EFDC32104	EFDC32105	EFDC32106					

Dimensions

In Inchest:



Hub Size	Dim. "II"	Dim. "I"
3/4	7/8	13/16
1	1	¹⁵ / ₁₆

*Seals must be installed within 11/2" of each conduit opening, for Group B use.

†Dimensions are approximate, not for construction purposes.

600VAC, 250VDC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Applications:

 NCB circuit breakers are for use in conjunction with a variety of heating, lighting and power circuits to provide disconnect means and short circuit protection.

Features:

- Enclosures are made of Krydon®, Eaton's Crouse-Hinds' high impact strength fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat
- Unitized, strong and durable enclosure construction provides longer service life for equipment
- Enclosure has hinged access door which opens 160° for easy wiring and maintenance. Three screws for door frame are hidden behind access door
- Access door may be padlocked to prevent unauthorized access

Certifications and Compliances:

- NEMA: 3, 4X and 12
- CSA Standard: C22.2 No. 94
- UL Standard: 489

Electrical Rating Ranges:

• 100, 150, 225, 250 and 400 amp frames

Suffix

S618

Options:

Description

 Insulated, groundable type terminal block for grounded or ungrounded neutral can be supplied

- Hubs (see "Note on Hubs") see listing on page 677
- Grounding plate or bushing see listing on page 677



Circuit breaker enclosure with built-in Krydon material handle

Ordering Information

To order an enclosure complete with circuit breaker, insert the manufacturer's symbol in the designated position of the catalog number. Enclosures only can be ordered. Select from listings.

Circuit Breaker			Enclosure				
	Voltage		With Circuit	Without Circuit			
Poles	Rating	Amps	Breaker Cat. #	Breaker Cat. #			
100A Fran	me (Non-Interchang	geable Trip)					
		15	NCB1018F ①15EB 22				
		20	NCB1018F ①20EB 22				
		25	NCB1018F ①25EB 22				
		30	NCB1018F ①30EB 22				
		35	NCB1018F ①35EB 22				
0	240 VAC/	40	NCB1018F ①40EB 22	NCB1018F			
2	250 VDC	50	NCB1018F ①50EB 22	NCBIUISF			
		60	NCB1018F ①60EB 22				
		70	NCB1018F ①70EB 22				
		80	NCB1018F ①80EB 22				
		90	NCB1018F ①90EB 22				
		100	NCB1018F ①100EB 22				
		15	NCB1018F ①15EHB 24				
		20	NCB1018F ①20EHB 24				
		25	NCB1018F ①25EHB 24				
		30	NCB1018F ①30EHB 24				
		35	NCB1018F ①35EHB 24				
2	480 VAC/	40	NCB1018F ①40EHB 24	NCB1018F			
2	² 250 VDC	50	NCB1018F ①50EHB 24	NOBIOTOI			
		60	NCB1018F ①60EHB 24				
		70	NCB1018F ①70EHB 24				
		80	NCB1018F ①80EHB 24				
		90	NCB1018F ①90EHB 24				
		100	NCB1018F ①100EHB 24				

①Circuit Breakers:

Frames

NOTE ON HUBS: The following number and sizes of hubs (not mounted) are included when circuit breakers are ordered complete. If enclosures only are ordered, hubs must be ordered separately (see "Options")

		100/ 1	50A		225/ 250A	400A
Manufacturer	Symbol	240V	480V	600V	600V	600V
General Electric	TT	TEB	TED†	TED†	TFJ	
Square D	DT	FAL†	FAL†	FAL†	KAL	LAL
Cutler-Hammer	WT	EB	EHB, EHD	FB, FDB	JB, JDB	
†Specify voltage.						

Circuit Breaker	Ampere	Number	Hub
Frame	Rating	Included	Size
EB, EHD*, FDB‡	15–50	2	1½
EB, EHD*, FDB‡	60–100	2	2
JDB ■	110–225	2	2½
KDB§	250–400	2	3
*Formerly EHB. ‡Formerly FB. §Formerly LB. Formerly JB.		Crouse	-Hinds

by **F**₄**T**•**N**

NCB Series Circuit Breakers and Enclosures

600VAC, 250VDC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Circui	Breaker		Enclosure	Mills and	Circui	t Breaker		Enclo	sure		1471	la a t
			With Circuit	Without Circuit				With Circui	t			hout cuit
	Voltage		Breaker	Breaker		Voltage		Break				aker
Poles	Rating	Amps	Cat. #	Cat. #	Poles	Rating	Amps				Ca	
100/15	OA Frame (erchangeable Trip) - contir	nued	225/50	A Frame (Non-Inter	change	able Tri	p)&		
	(15	NCB1018F ①15FB 26			,	110			110JB 2	6	
		20	NCB1018F ①20FB 26			600	125			125JB 2		
		25	NCB1018F ①25FB 26		2	VAC/	150			150JB 2	NIC	B1024F
		30	NCB1018F ①30FB 26		_	250	175			175JB 2	6	D102-11
	600 VAC/	35 40	NCB1018F ①35FB 26 NCB1018F ①40FB 26	NODAGAGE		VDC	200 225			200JB 20 225JB 20		
2‡	250 VDC	50	NCB1018F ①50FB 26	NCB1018F								
		70	NCB1018F ①70FB 26				110			110JB 3		
		80	NCB1018F ①80FB 26				125			125JB 3		
		90	NCB1018F ①90FB 26		3	600 VDC	150 175			150JB 3(175JB 3(NIC	B1024F
		100	NCB1018F ①100FB 26				200			200JB 3		
		15	NCB1018F ①15EB 32				225			225JB 3		
		20	NCB1018F ①20EB 32		400A I	Frame (Inte	rchangea	ble Trir)*			
		25	NCB1018F ①25EB 32				250			250LB 2	6	
		30 35	NCB1018F ①30EB 32 NCB1018F ①35EB 32		2	600 VAC/	300			300LB 2	NIC.	B1426F
	240 VDC	40	NCB1018F ①40EB 32	NCB1018F	2	250 VDC	350			350LB 2	0	D 1420F
	240 VDC	50	NCB1018F ①50EB 32	NODIOIO			400	NCB1	426F ①4	400LB 2	6	
		70	NCB1018F ①70EB 32				250			250LB 3		
		80	NCB1018F ①80EB 32		3	600	300			300LB 3		B1426F
		90	NCB1018F ①90EB 32			VAC	350			350LB 3	ь	
		100	NCB1018F ①100EB 32				400	NCBI	420F U	400LB 3	0	
		15	NCB1018F ①15EHB 34		①Circu	it Breakers:						
		20 25	NCB1018F ①20EHB 34 NCB1018F ①25EHB 34					Frame	es			
		30	NCB1018F ①30EHB 34					100/			225/	
		35	NCB1018F ①35EHB 34					150A			250A	400A
	480 VAC	40	NCB1018F ①40EHB 34	NCB1018F	Manufa	acturer	Symbol	240V	480V	600V	600V	600V
		50 70	NCB1018F ①50EHB 34 NCB1018F ①70EHB 34		Genera	l Electric	ТТ	TEB	TED†	TED†	TFJ	
		80	NCB1018F ①80EHB 34		Square	D	DT	FAL†	FAL†	FAL†	KAL	LAL
		90	NCB1018F ①90EHB 34		Cutler-	Hammer			EHB,	FB,	JB,	
		100	NCB1018F ①100EHB 34			-	WT	EB	EHD	FDB	JDB	
		15	NCB1018F ①15FB 36		Note on	Hubs: The follo	wina number	and sizes	of hubs (n	ot mounted	d) are inclu	ded when
		20	NCB1018F ①20FB 36		circuit bre	eakers are orde	red complete					
		25 30	NCB1018F ①25FB 36 NCB1018F ①30FB 36		ordered s	separately (see	"Options").					
		35	NCB1016F ①30FB 36									
	600 VAC	40	NCB1018F ①40FB 36	NCB1018F		Breaker		mpere		lumber		Hub
		50	NCB1018F ①50FB 36		Frame			ating		ncluded		Size
		70	NCB1018F ①70FB 36			D ⊙ , FDB▲		5-50	2			11/4
		80	NCB1018F ①80FB 36			D ⊙ , FDB▲)–100	2			2
		90 100	NCB1018F ①90FB 36 NCB1018F ①100FB 36		JDB ■		11	0–225	2		2	21/2
		100	INCD IU IOF U IUUFB 36		■Former S Former							
					₩ COIII1er	IY EHD						

[†]Specify voltage

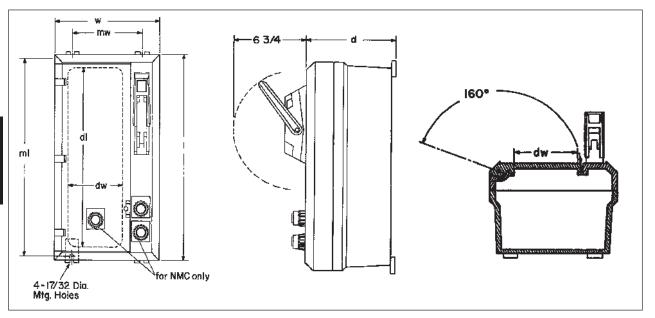
^{‡2-}pole, 600 VAC/250 VDC for Square D circuit breakers only.
*For Square D circuit breakers only.
§Also available with interchangeable trip breakers. Specify on order.

3C NCB Series Circuit Breakers and Enclosures

600VAC, 250VDC Heavy Duty

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Dimensions In Inches*



	Outside Di	Outside Dimensions			Mounting Dimensions		ning Dimensions
Cat. #	I	w	d	mw	ml	dl	dw
NCB1018	1913/32	1113/32	823/32	7 ⁷ / ₈	19¾	167/8	511/16
NCB1024	2513/32	1113/32	8 ²³ / ₃₂	77/8	253/8	227/8	511/16
NCB1426	2713/32	1513/32	9 ²³ / ₃₂	117/8	271/4	2311/16	911/16

^{*}Dimensions are approximate, not to be used for construction purposes.

Control Stations Hazardous and Non-hazardous

Description	Page No.
Application/Selection	see pages 512-513
EDS / EFS Series Control Stations	
FlexStation™ Control Station Components	see page 514
EDSCM Modular Series Bodies	see page 519
DSD Cover and Device Sub-assemblies	see page 521
DSD-SR HP Rated Selector Switch	see page 524
Fully Assembled EDS and EFS Control Stations	
EDS Pushbutton Stations	see page 527
EFS Pilot Light Stations	see pages 530-531
EDS Combination Pushbutton and Pilot Light Stations	see page 532
EDS Selector Switches	see page 533
EFS Selector Switches	see page 534
EDS Snap Switches	see page 535
EDS Manual Motor Starting Switches	see pages 536-537
EFS Fire Alarm Station	see page 538
EDS / EFS Control Stations Sub-assembly Reference Guide	see pages 539-540
MC / MCC Pushbutton, Selector Switch, and Pilot Light Stations	see page 541
N2S / N2SC Control Stations	see page 544
N2SU / N2SCU Control Stations	see page 551
N2FA / N2FAC Fire Alarm Control Stations	see page 555
GHG43 Control Stations	see page 556
OAC Pushbutton Stations and Selector Switches	see page 567
Control Station Covers	see page 570
Replacements for Pushbutton and Selector Switch Control Stations	see page 571

4C Control Stations

Application and Selection Ouick Selector Chart

Applications:

Control stations are used as a remote means of:

- Motor control
- Visual indication of equipment performance
- On-off control of circuits
- Circuit selection

Considerations for Selection:

- The environment of the control station location and requirements for construction in terms of NEC/CEC compliances and NEMA/EEMAC type
- Function to be performed
- Desirability of factory sealing as compared to field sealing
- · Factory sealing has distinct advantages:

Less installation problems

Less time consuming

Less change of error

Lower installed cost

Accommodates future changes to

circuitry

Greater reliability

- The number of controls required, and the space available for installation. Where space is limited, panel or junction box mounting with many combinations are available
- See "Quick Selector Chart" for guidance

Options:

Many options are available on:

- Material and finishes where special
- atmospheric conditions prevail Special features for specific applications. See individual control station listings for available options

Quick Selector Chart

Control Station	NEC/CEC - Hazardous Area Compliance	NEMA/EEMAC Type	Function	Factory Sealed	No. of Devices or Units	Type of Mounting	Cover Style
MC, MCC		3, 4	Pushbutton Pilot light Selector switch		1-5*	Surface 1-5 gang	Gasketed
EDS, EDSC§	Cl. I, Div. 1, Groups C, D Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7B (Div. 2) CD, 9EFG	Pilot light Pushbutton Selector switch	Pilot light Pushbutton Selector switch§	1-2*	Surface 1-2 gang	Ground joint
DSD Covers and Device Sub-assemblies	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7B, 9EFG	Pilot light Pushbutton Selector switch	Pilot light Pushbutton Selector switch	1	Surface 1 gang	Ground joint
DSD-SR	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 5, 7CD, 9EFG, 12	Selector Switch		1	Surface 1 gang	Ground joint
EDSCM	Cl. I, Div. 1, Groups C, D Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7CD, 9EFG	Pilot light Pushbutton Selector switch		1-15*	Surface 1-15 gang	Ground joint
EFS§	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7BCD, 9EFG	Pilot light Pushbutton Selector switch	Pilot light§ Pushbutton Selector switch	1-2*	Surface 1 gang	Ground joint

*Number of devices per unit.

Control Stations 4C

Application and Selection Quick Selector Chart

Quick Selector Chart (continued)

Control Station	NEC/CEC - Hazardous Area Compliances	NEMA/EEMAC Type	Function	Factory Sealed	No. of Devices or Units	Type of Mounting	Cover Style
FlexStation	CI. I, Div. 1, Groups C, D CI. I, Div. 2, Groups B, C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III	3, 7B (Div. 2) CD, 9EFG	Pilot light Pushbutton	Pilot light Pushbutton	1-2-3	Surface 1-2 gang	Ground joint
GHG43	CI. I, Div. 2, Groups A, B, C, D CI. I, Zones 1 and 2, (A)Ex de IIB + H2, T6 CI. II, Div. 1, Groups E, F, G PTB ATEX Certified 3117 CENELEC EEx de IIC, T6, Zones 1 and 2 Eex de IIC, T6 Zones 21 and 22	4X, IP66	Pushbutton Signal Lamp Potentiometer Ammeter Selector Switch Terminal Blocks		1-4*	Surface 1 gang	Screw and Gasket
N2FA, N2FAC	Cl. I, Div. 2, Groups B, C, D	3, 7BCD, 12	Fire Alarm	Pushbutton Selector switch	1	Surface 1 gang	Screw and Gasket
N2S, N2SC N2SU, N2SCU	Cl. I, Div. 2, Groups B, C, D	3, 4X, 7BCD, 12	Pilot light Pushbutton Selector switch Combination	Pilot light Pushbutton Selector switch Combination	1-4*	Surface 1 gang	Screw and Gasket
OAC	Cl. I, Div. 1, Groups A, B, C, D Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7ABCD, 9EFG, 12	Pushbutton Selector switch	Pushbutton Selector switch	1-2*	Surface 1 gang	Threaded

^{*}Number of devices per unit.

FlexStation™ Control Station Components

CI. I, Div. 1 & 2, Groups B (Div. 2 only) C, D
CI. II, Div. 1 & 2, Groups E, F, G
CI. III
Zone 1 & 2 Group IIB

NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

Applications:

Five modular components – operators, contact blocks, covers, legend plates, and bodies – are combined to provide a variety of control stations which are:

- For use indoors or outdoors, in areas which are hazardous due to the presence of flammable gases and vapors, or combustible dust.
- Used in conjunction with magnetic starters or contactors for remote control of motors and other electrical apparatus.
- For installation in petroleum refineries, chemical, petrochemical, and other industrial process facilities; grain processing and storage facilities; and other heavy industrial applications where Class I, Class II, or Class III hazards are present.



- Momentary contact pushbuttons, maintained contact pushbuttons, and pilots lights offer a choice of functions.
- Selector switches in 2 or 3 position configurations including keyed and spring return options.
- Single-hole, two-hole, and three-hole covers for one, two, or three devices respectively per station.
- Rugged control devices for safe, reliable operation in industrial applications.
- Bodies, with extra room for wire pulling and termination, also include two integral mounting feet for fast, secure installation.
- Bodies have ½", ¾", or 1" dead-end or through-feed conduit hubs with integral bushing for protection of wire insulation.
- Covers and bodies are available in Feraloy® or copper-free aluminum for light weight and corrosion resistance.
- DL legend plates have large lettering to give clear indication of device function.
 Space is available for field markings.

Certifications and Compliances:

• NEC

Class I, Division 1 & 2, Groups B* (Div. 2), C, D

Class II, Division 1 & 2, Groups E, F, G Class III

- Zone 1 & 2 Group IIB*
- NEMA: 3R, 7B (Div. 2) CD, 9EFG, 12
- UL Standard: 1203



Standard Materials:

- Bodies, covers Feraloy® or copper-free aluminum.
- Pushbuttons and guards Type 6 / 6 nylon.
- Operating shafts, bearings stainless steel

Standard Finishes:

- Feraloy® iron alloy electrogalvanized and aluminum acrylic paint.
- Copper-free aluminum natural.
- Stainless steel natural.

Options:

DescriptionCopper-free aluminum bodies and covers

Corro-free[™] epoxy finish for use in severely corrosive environments.

S752

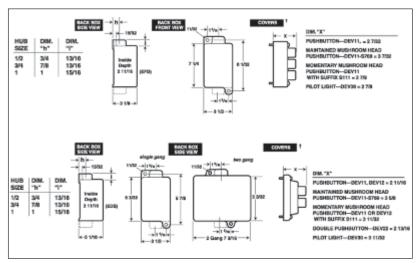
Suffix

SA

FlexStation covers and bodies. **Electrical Ratings:**

- Pushbuttons and selector switches 600 VAC heavy duty (NEMA A600).
- Pilot lights 120 VAC.

Dimensions In Inches:



†Covers have same length and width as back boxes.

*For Class I, Division 1, Group B or Zone 1 Hydrogen applications, use the EFS(C) complete control station catalog numbers see page 528.

FlexStation™ Control Station Components

Cl. I, Div. 1 & 2, Groups B (Div. 2 only) C, D Cl. II, Div. 1 & 2, Groups E, F, G CI. III Zone 1 & 2 Group IIB NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

STEP 1 – Select Operator

Pushbutton - front operated, standard black button



Description	Cat. #
Single button for 1 contact block	DEV11
Single button for 2 contact blocks	DEV12
Double buttons for 2 contact blocks	DEV22



Options	Suffix
Specify color for each pushbutton button (ex: DEV11G, DEV22GR). Color is black if	f unspecified.
Green button - unmarked	G
Red button - unmarked	R
Momentary red mushroom head style (not available with lockout or with DEV22)	S111
Lockout with bar and chain (available on DEV11 and DEV12)	S153
Maintained red mushroom head style (lockout comes standard, do not specify S153; no nDEV22) (Push to stop only)	ot available \$769



Pilot Light - factory sealed, incandescent lamp





Description	Cat. #
Pilot light with red jewel	DEV30 J1
Pilot light with green jewel	DEV30 J3
Pilot light with amber jewel	DEV30 J6
Pilot light with clear jewel	DEV30 J10
Pilot light with blue LED and clear jewel	DEV30 J11 LED
Options	Suffix
Options LED lamps (standard clear jewel with colored lamp)	Suffix LED
LED lamps (standard clear jewel with colored lamp)	LED
LED lamps (standard clear jewel with colored lamp) 24 V lamp (not available with transformer feature)	LED S300
LED lamps (standard clear jewel with colored lamp) 24 V lamp (not available with transformer feature) 240 / 120 V pilot light transformer	LED \$300 T2

Selector Switch - with standard lockout





standard lockout				
Description	Cat. #			
2-position (pos. 1 – N.O., pos. 2 – N.C.) for use with 1 or 2 contact blocks 3-position (pos. 1 – N.O., pos. 2 – Open, pos. 3 – N.C.) for use with 1 or 2 contact blocks				
3-position (pos. 1 – N.C., pos. 2 – N.O., pos. 3 – N.O. for Switch A) (pos. 1 – N.O., pos. 2 – N.O., pos. 3 – N.C. for Switch B) for use with 2 contact blocks	DEV44			
Options	Suffix			
Spring return to center from right (For DEV43 or DEV44 only)	S634			
Spring return to center from left (For DEV43 or DEV44 only)	S635			
Spring return to center from right and left (For DEV43 or DEV44 only)	S842			
Key Operated – removable from all positions	S847 K1			
Key Operated – removable from left position for DEV42 or from center for DEV43 and DEV44	S847 K2			
Key Operated – removable from right position for DEV42 or from left for DEV43 and DEV44	S847 K3			
Key Operated – removable from right position for DEV43 and DEV44	S847 K4			

STEP 2 - Select Contact Block (if required). For product details see page 571. **Contact Block**



Contact block, 1 NO and 1 NC, 10A, 600VAC, A600 rating ESWP126

For additional technical information see page 571.

Note - Each control station will accept a maximum of three contact blocks. Select device operators accordingly. DEV12, DEV22 and DEV44 may not be used on a three-operator (DS443-SA) cover. DEV42 and DEV43 may not be used on a three-operator cover when using them with two contact blocks.

FlexStation™ Control Station Components

CI. I, Div. 1 & 2, Groups B (Div. 2 only) C, D CI. II, Div. 1 & 2, Groups E, F, G CI. III
Zone 1 & 2 Group IIB

NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

STEP 3 – Select Desired Legend Plates

For use with single hole covers		For use with 2 or 3 hole covers			
Cat. #	Inscription	Cat. #	Inscription	Cat. #	Inscription
Cat. # DL101 DL128 DL129 DL130 DL132 DL133 DL135 DL136 DL137 DL138 DL139 DL140 DL141 DL142 DL144 DL148 DL149 DL165 DL186 DL187 DL188 DL189 DL190 DL191 DL192 DL193 DL194 DL195 DL195 DL196 DL197	Inscription Blank Run-Jog Hand-Auto Forward-Reverse Open-Close Up-Down In-Out Raise-Lower Start-Stop Run-Off-Jog Hand-Off-Auto For-Off-Rev Fast-Off-Slow 1-Off-2 Open-Off-Close Up-Off-Down Off-On Auto-Off-Hand Slow-Fast Safe-Run Raise-Off-Lower Slow-Off-Fast Odd-Off-Even Stop-Start On-Off Fast-Slow Local-Remote Trip-Reset Auto-Manual Start-Emer Stop Alarm-Silence	Cat. # DL01 DL02 DL03 DL05 DL06 DL07 DL08 DL09 DL10 DL11 DL12 DL13 DL14 DL15 DL16 DL17 DL18 DL19 DL20 DL21 DL22 DL23 DL24 DL25 DL24 DL25 DL26 DL27 DL28 DL29 DL30	Inscription Blank w/no fields Blank w/single field Blank w/2 fields Start Stop On Off Run Jog Trip Reset Test Power On Hand Automatic Emer Stop Forward Reverse Open Close Up Down In Out Raise Lower Run-Jog Hand-Auto Forward-Reverse	Cat. # DL32 DL33 DL35 DL36 DL37 DL38 DL39 DL40 DL41 DL42 DL43 DL44 DL46 DL47 DL48 DL49 DL65 DL85 DL86 DL87 DL88 DL89 DL90 DL91 DL92 DL93 DL91 DL92 DL93 DL94 DL95 DL96 DL97 DL98	Inscription Open-Close Up-Down In-Out Raise-Lower Start-Stop Run-Off-Jog Hand-Off-Auto For-Off-Rev Fast-Off-Slow 1-Off-2 Open-Off-Close Up-Off-Down Fast Slow Off-On Auto-Off-Hand Slow-Fast Safe Safe-Run Raise-Off-Lower Slow-Off-Fast Odd-Off-Even Stop-Start On-Off Fast-Slow Local-Remote Trip-Reset Auto-Manual Start-Emer Stop Alarm-Silence Maint-Manual

Note: For special markings order DL101-"desired markings" or DL01-"desired markings"

STEP 4 – Select Cover Covers



Description	Cat. #
Blank cover with single hole (Single gang)	DS441
Blank cover with 2 holes (Single gang)	DS442
Blank cover with 3 holes (To be used with EFD(C)1491-SA, 2491-SA or 3491-SA series of back boxes)	DS443 SA
Replacement cover plug for unused device operator openings	206765



Options:	Suffix
Aluminum body (mandatory suffix on DS443 must be included in catalog number)	SA
Exterior epoxy powder coat finish	S752
Interior & exterior epoxy powder coat finish. Not available on three operator cover (DS443-SA)	S753

FlexStation™ Control Station Components

Cl. I, Div. 1 & 2, Groups B (Div. 2 only) C, D Cl. II, Div. 1 & 2, Groups E, F, G Cl. III Zone 1 & 2 Group IIB NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

STEP 5 - Select Back Box

Back Boxes - for use with DS441 and DS442 covers or with 1 gang and 2 gang DS/DSD Series covers



Dead End	Through Feed	Hub Size	Back Box Arrangement
EDS171	EDSC171	1/2"	Single gang back box
EDS271	EDSC271	3/4"	Single gang back box
EDS371	EDSC371	1"	Single gang back box
EFS172	EFSC172	1/2"	Double gang back box
EFS272	EFSC272	3/4"	Double gang back box
EFS372	EFSC372	1"	Double gang back box



Options:	Suffix	
Aluminum body Exterior epoxy powder coat finish Interior & exterior epoxy powder coat finish	SA S752 S753	

Back Boxes - for use with DS443-SA cover or with 11/2 gang DS511 (3-operator) Series covers



5-5A cover of with 1/2 gaing boot 1 (5-operator) series covers				
Dead End	Through Feed	Hub Size	Back Box Arrangement	
EFD1491 SA EFD2491 SA EFD3491 SA	EFDC1491 SA EFDC2491 SA EFDC3491 SA	1/2" 3/4" 1"	1½ gang back box 1½ gang back box 1½ gang back box	
Options			Suffix	
	owder coat finish r epoxy powder coat f	inish	S752 S753	

FlexStation™ Control Station Components Cl. II, Div. 1 & 2, Groups E, F, G

CI. III

Zone 1 & 2 Group IIB

NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

Back Boxes - for use with DS441 and DS442 covers



Through Feed	Hub Size	Back Box Arrangement
EDSC378	1"	3 gang tandem
Common Cover	Assemblies	
Cat. #	Description	
DS455 ①	With one pilot light	
DS476 ① ②	With one pilot light and transformer	
DS456 ① ①	With two pilot lights	
DS429§	With one pushbutton	
DS454§	With two pushbuttons	
DS510 ①§	With one pushbutton and one pilot light	

①Add color symbol for each pilot light from table below.

Color	Symbol	Color	Symbol	Color	Symbol	
Red	J1	Amber	J6	Blue	J11	
Green	J3	Clear	J10			

②Add suffix below for transformer primary voltage: **Transformers – Voltages above 125**

Nom. Volts 50–60Hz Transformer	Primary Voltage Range	Suffix
220 / 110	220-240	T2
440 / 110	440–480	T4
550 / 110	550–600	T5

	ates may be added to catalog number. Select		
START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

4C

EDS / EFS Series Control Stations

EDSCM Modular Multi-Gang Control Device Bodies

CI. I, Div. 1, Groups C, D*
CI. I, Div. 2, Groups B, C, D
CI. II, Div. 1, Groups E, F, G
CI. II, Div. 2, Groups F, G
CI. III
NEMA 3, 7B (Div. 2) CD, 9EFG

Explosionproof Dust-Ignitionproof Raintight Wet Locations

For use with DSD device cover sub-assemblies see page 521.

Applications:

Modular control device bodies are for surface mounting combinations of control device equipment for use in:

- Industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas where atmospheres may contain hazardous gases or dusts, and arcing of enclosed devices must not ignite the surrounding atmosphere.
- Conjunction with magnetic starters or contactors for remote control and monitoring motors.
- · Manual starting and stopping of small AC or DC motors.
- Controlling and supplying energy to portable electrical devices such as motor generator sets, compressors, conveyors, portable tools, etc.

Features:

EDSCM Modular Control Stations have many distinct advantages over multiple individual units:

- Reduce installation costs. A multi-gang device assembly can be installed in less time than several single-gang units.
- · Seals not required between gangs.
- Improved appearance. No exposed conduit runs between devices.
- Lightweight. Fifteen-gang aluminum device body can be installed by one person.
- Mounting feet are provided on the top and bottom of every gang to facilitate installation.
- Two and three gang tandem bodies have 11/4" through feed inward horizontal hubs and 1" or 2" vertical through feed hubs. Pipe plugs are installed in one horizontal hub and both vertical hubs.
- Single-gang device bodies have 1" through feed inward horizontal hubs and ¾" through feed vertical hubs. Pipe plugs are installed in one horizontal hub and both vertical hubs.
- All hubs are taper tapped and have integral bushings.
- Close nipples, which are used to join two or more device bodies together, are furnished with EDSCM 21, 32, 33, 62 and 63 units.
- Any combination of bodies can be joined together horizontally.

Certifications and Compliances:

(When used with DSD device sub-assemblies)*:

Class I, Division 1 & 2, Groups C, D Class I, Division 2, Group B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

Class III

• NEMA/EEMAC: 3, 7B (Div.2) CD, 9EFG

UL Standard: 1203

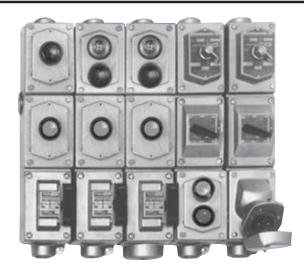
• CSA Standard: C22.2 No. 30

Standard Materials:

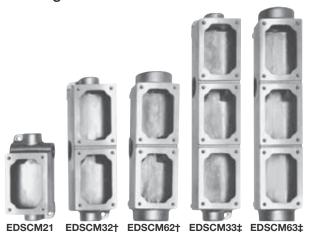
• Copper-free aluminum

Finish:

Natural



Ordering Information



Description	Through Feed Hub Size	Cat. #
Single Gang	3/4"	EDSCM21
Tandem Two Gang	1"	EDSCM32
Tandem Two Gang	2"	EDSCM62
Tandem Three Gang	1"	EDSCM33
Tandem Three Gang	2"	EDSCM63

- * When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only.
- I, Groups C and D areas only.
 † EDSCM32 and EDSCM62 will not accept covers with S697 or S701 suffixes.
 ‡ Bottom gang opening will accept covers with S697 or S701 suffixes.
- In Class I areas all conduit runs entering bodies must be sealed. As many as five bodies can be joined horizontally without an intervening seal.

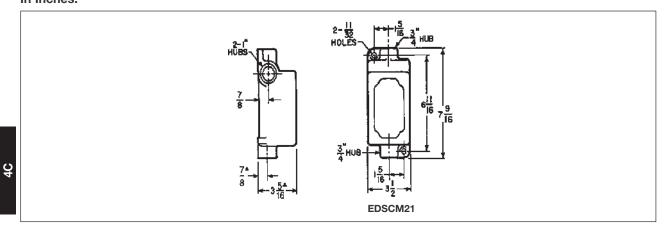
EDSCM Modular Multi-Gang Control Device Bodies

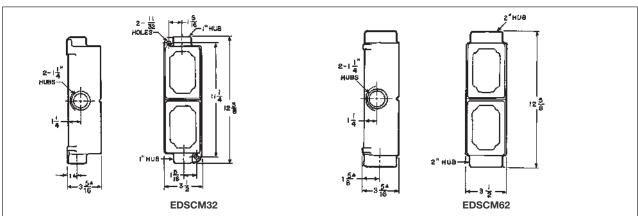
Cl. I, Div. 1, Groups C, D*
Cl. I, Div. 2, Groups B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III

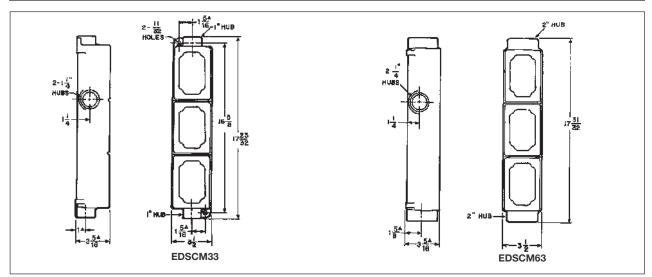
NEMA 3, 7B (Div. 2) CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Dimensions In Inches:







^{*} When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only.

Dimensions are approximate. Not for construction purposes.

DSD Cover and Device Sub-assemblies

For use with EDSCM modular control device bodies see page 519 and EDS/EDSC back boxes.

Features:

- Large machine screws for fastening covers to bodies
- Lockout hole for padlock having 1/4" hasp is provided when used with covers for front lever and side rocker type
- · Lockout provisions on front operated pushbutton (marked "STOP" and "OFF") and all selector switch covers
- · For covers with front lever and side rocker type operating handles, threaded type shafts and bushings are used to ensure flametightness
- · Accurately ground flange for flametight joint when mated with ground flange on back box

Certifications and Compliances:

(When used with EDSCM & EDS bodies):

• NEC/CEC:

Class I, Division 1 & 2, Groups C, D† Class I, Division 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 7B (Div. 2) CD, 9EFG
- UL Standards: 894, 698 • CSA Standard: C22.2 No. 30

Pushbuttons, Pilot Lights & Selector Switches (when used with EFS bodies):

• NEC/CEC:

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 7BCD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Covers, front operated Feraloy iron alloy and copper-free aluminum
- Covers, side operated copper-free aluminum
- Shafts and shaft bushings stainless
- Rocker handles, pushbuttons and guards - type 6 / 6 nylon
- Sealing enclosures copper-free aluminum

CPS delayed action receptacle cover:

- Receptacle housing copper-free aluminum
- Insulation diallyl phthalate (DAP)
- Contacts brass

Cl. I. Div. 1 & 2, Groups B*, C, D† Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG

Dust-Ignitionproof Raintight Wet Locations

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural



Options:

The following special options are available by adding suffix to Cat. #:	
Description	Suffix
Lockout provision on front operated pushbutton cover (standard on buttons marked "STOP" and "OFF")	S153
 Three-position selector switches with modified operation: Momentary contact clockwise operation, spring return to center, maintained 	
contact counter-clockwise operation Momentary contact counter-clockwise operation, spring return to center,	S634
maintained contact clockwise operation • Emergency "STOP" button momentary – front operated mushroom button breaks	S635
normally closed contacts (DL02 legend plate included - must specify legend text) • Bodies and covers - copper-free aluminum	S111 SA
For 24 VDC operation on pilot lights Maintained contact mushroom head with lockout and guard (Will not fit with a	S300
pilot light if transformer is required) (Push to stop only)	S769
Spring return to center from right and left (For DEV43 or DEV44 only) Key Operated – removable from all positions	S842 S847 K1
Key Operated – removable from left position for DEV42 or from center for DEV43 and DEV44	S847 K2
 Key Operated – removable from right position for DEV42 or from left for DEV43 	S847 K3
Key Operated – removable from right position for DEV43 and DEV44	

Ordering Information Manual Motor Starters

Poles	Max. H.P.	Max. Volts A.C.	Cat. #	
With Alle	With Allen-Bradley Bulletin 600 Switches			
1	1	115–230	DSD910 ①	
2	1	115–230	DSD911 ①	
With General Electric Switches				
1	1	115–230	DSD912 ①§	
2	1	115–230	DSD913 ①§	
With Cutler-Hammer Switches				
1	1	115–230	DSD914 ①§	
2	1	115–230	DSD915 ①§	
With Arrow-Hart Switches				
Without Overload Protection				
2	5	250 (30A)	DSD916	
2	7.5	600 (30A)	DSD916	
3	7.5	250 (30A)	DSD917	
3	15	600 (20A)	DSD917	



- When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only.
- * For pushbuttons, pilot lights, & selector switches, use EFS back box with required external conduit seal for 1 inch hub size, within 5 feet for Class I, Division 1, Group B applications.
- § A comparable factory sealed cover will fit on the EDSCM21 body, EDS and EDSC bodies and in bottom gang of EDSCM33 and EDSCM63 bodies. To order, add suffix S701 to catalog number
- ① Includes one interchangeable heater. To select heater see pages 479–480. Symbol 0 (zero) may be used to indicate heater omitted.

DSD Cover and Device Sub-Assemblies

Cl. I. Div. 1 & 2, Groups B*, C, D† Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations





DSD922









CPS152R



ENR5201

For use with EDSCM modular control device bodies see page 519 & EFS/EDS back boxes.

Ordering Information

Front Operated Pushbutton Stations 600 VAC Heavy Duty, Factory Sealed

Number of Normal			
Cover Buttons		Diagram	Cat. #
1	1 Circuit Universal	aia • •	DSD918 ①
1	2 Circuits Universal	eie aie	DSD919 ①
	2 Circuits	A B	DSD920 ①■
2	2 Circuits Universal	eie eie • • • •	DSD921 ①
2	2 Circuits Start-Stop unless otherwise specified	A B	DSD922 ①■
2	2 Circuits Universal Mushroom Head	ais ais	DSD970 ①
3 (2-operator)	3 Circuits Universal		DSD962 ①
3 (3-operator)	3 Circuits Universal		DS511 ① SA§
3 (3-operator)	3 Circuits Universal Double pilot light - single pushbutton combo	@ @ ::	DS513 ① SA§
3 (3-operator)	3 Circuits Universal Double pushbutton - single pilot light combo	*** *** ®	DS514 ① SA§

Front Operated General Use Snap Switch

Style	Amperes 120 VAC	277 VAC	Cat. #
1-Pole	20	20	DSD933‡
2-Pole	20	20	DSD934‡
3-Pole	A	A	DSD935 ©
3-Way	20	20	DSD936‡
4-Way	20	20	DSD937‡
1-Pole	30	30	DSD939‡
2-Pole	30	30	DSD940‡
3-Way	30	30	DSD941‡

Delayed Action Receptacles Factory Sealed

Rating	Cat. #
20 A, 1 HP, 125–250 VAC 60 Hertz	CPS152R
20 A, 18 VDC	(2 wire, 3 pole)
30 A, 1½ HP, 125–250 VAC 60 Hertz;	CPS532R
7 A, ½ HP, 480 VAC, 60 Hertz	(2 wire, 3 pole)
30 A, 3 HP, 125–250 VAC 60 Hertz;	CPS732R
7A, 1 HP, 480 VAC, 60 Hertz	(3 wire, 4 pole)

General Purpose, Dead Front Factory Sealed			
Rating	Cat. #	Diagram	
20 A, 125 VAC	ENR5201		
		5-20R	
20 A, 250 VAC	ENR6202	6-20R	
①If desired markings on it	ndicating plates m	av he added to catalog	

number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

- * For pushbuttons, pilot lights, & selector switches, use EFS back box with required external conduit seal for 1 inch hub size, within 5 feet for Class I, Division 1, Group B applications. † When a CPS receptacle cover device is used, the assembly meets requirements for Class
- I, Groups C and D areas only.

 Two universal contact blocks, must be wired as two circuits with one normally open and one normally closed. 1 green button, 1 red button, and lockout provision provided as standard.
- ▲16 Amp., 125V.
- 10 Amp., 250V.
- ‡ To order a comparable factory sealed cover for EDS, EDSC, EDSCM21 and the bottom gang of EDSCM33 and EDSCM63 bodies, add suffix S697. Factory sealed for Class I, Division 2, Group B.

 Cannot be factory sealed.

§ Can only be used with EFD Series 1½ gang back boxes. Pushbuttons include contact blocks. Standard pushbutton color is black. For optional colors - red, green - write in color. Example: DS511 GREEN BLACK RED-SA. First color is for uppermost button. For optional legend markings write in marking after device operator color. Example: DS513-J3 JOG-J1 STOP GREEN-SA.

EDS / EFS Series Control Stations

DSD Cover and Device Sub-Assemblies

Cl. I. Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F. G CI. III NEMA 3, 7B*CD, 9EFG

Explosionproof Dust-Ignitionproof Raintight Wet Locations









DSD925



DSD961-J1 **DSD958 DSD957** For use with EDSCM modular control device bodies see page 519 & EFS/EDS back boxes.

Ordering Information **Side Operated Pushbutton Station** 600 VAC Heavy Duty, Factory Sealed

Normal Position	Diagram	Cat. #
1 Circuit Universal	<u>aia</u> • •	DSD949 ③
2 Circuits Universal	<u>aia</u> <u>aia</u>	DSD950 ③
2 Circuits 1 Open - A 1 Closed - B Start-Stop unless	A B	DSD951 ③

Selector Switches

otherwise specified

Maintained Contact 600 VAC Heavy Duty, Factory Sealed Style Position 1 Position 2 Position 3 Cat. #

	Style	Position I	Position 2	Position 3	Cat. #
	Two Circuit	A1 ala A2 • •	# # * *		DSD923 4
Two Position	Four Circuit	A1 eia A2 • • B1 aia B2 • •	\$4 \$4		DSD924 @
		A1 <u>ala</u> A2 • •	• • •1•	***	DSD925 ④
Three Position	Two Circuit	A1 <u>ala</u> A2 • • B1 <u>ala</u> B2 • •	0 0 0 0 0 0	*** ***	DSD926 4
	Four Circuit	A1 • • • A2 • • B1 ala B2 • •	eia • • • •	010 0 0 0 0	DSD927 4

^{*} For pushbuttons, pilot lights, & selector switches, use EFS back box with required external conduit seal for 1 inch hub size, within 5 feet for Class I, Division 1, Group B applications. ‡LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED to Cat. No. after last color symbol.

Pilot Light Devices‡ **Factory Sealed**

i dotory ocurcu						
Description	D	iagraı	m			Cat. #
With one pilot light		@				DSD948 ①
With two pilot lights (Not available with a transformer)		@		@		DSD947 ①
With one pilot light and transformer		@				DSD948 ① ②
With one pilot light and pushbutton station		<u>aia</u>		•		DSD958 ①
With one pilot light and 1 double pushbutton station		<u>ala</u>		<u>aia</u> • •	@	DSD961 ①
With one pilot light & transformer and 1 double pushbutton station		<u>mia</u> • •		<u>aia</u> • •	\$	DSD961 ① ②
Triple pilot light		●		₩	₩	DS512 ① SA§
Double pilot light - single pushbutton combo		•		@	<u>aia</u>	DS513 ① SA§
Double pushbutton - single pilot light combo		ele • •		<u>aia</u> • •	•	DS514 ① SA§
2 position selector switch, two circuit (pos. 1 - N.O., pos. 2 - N.C.)		ala	***			DSD973 ① ④
2 position selector switch, four circuit (pos. 1 - N.O., pos. 2 - N.C. for both switches)	A2 B1	ala 8 0 ala	\$4; \$4;			DSD974 ① ④
3 position selector switch, two circuit (pos. 1 - N.O., pos. 2 - open, pos. 3 - N.C.)		414	<u>0 0</u>	*,*		DSD975 ① ④
3 position selector switch, four circuit (pos. 1 - N.O., pos. 2 - open, pos. 3 - N.C. for both switches)	A2 81	<u>aia</u> 0 0 <u>aia</u> 7 0		# #		DSD976 ① ④
3 position selector switch, four circuit (pos. 1 - N.C., pos. 2 - N.O., pos. 3 - N.O. for switch A; pos. 1 - N.O., pos. 2 - N.O., pos. 3 - N.C. for switch B)	A1 A2 B1 B2	# # 0.10	414	#1m		DSD977 ① ④

Blank Cover

Description	Cat. #	
Blank Cover	DSD957	
①Add color symbol for ea	each pilot light from table below	

Color	Symbol	Color	Symbol	Color	Symbol	
Red	J1	Amber	J6	Blue	J11	
Green	J3	Clear	J10			

②Add suffix below for transformer primary voltage: **Transformers - Voltages above 125**

Nom. Volts 50–60Hz Transformer	Primary Voltage Range	Suffix	
220 / 110	220–240	T2	
440 / 110	440-480	T4	
550 / 110	550-600	T5	

3 If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below: RESET TRIP START OFF LIGHT ON STOP ON RUN HAND AUTOMATIC JOG TEST **EMERGENCY** OPEN DOWN RAISE LOWER FORWARD REVERSE CLOSE UP IN OUT

4 Specify indicating plate markings. Standard indicating plate markings available are as follows:

RUN, JOG HAND, AUTOMATIC FORWARD, REVERSE	FAST, SLOW OPEN, CLOSE UP, DOWN	IN, OUT RAISE, LOWER START, STOP
Three-Position	ON, OFF	
JOG, OFF, RUN AUTOMATIC, OFF, HAND FORWARD, OFF, REVERSE FAST, OFF, SLOW	1, OFF, 2 OPEN, OFF, CLOSE UP, OFF, DOWN	

[§] Can only be used with EFD Series 11/2 gang back boxes. Pushbuttons include contact blocks. Standard pushbutton color is black. For optional colors - red, green - write in color. Example: DS511 GREEN BLACK RED-SA. First color is for uppermost button. For optional legend markings write in marking after device operator color. Example: DS513-J3 JOG-J1 STOP GREEN-SA.

4C EDS / EFS Series Control Stations

Cl. I, Groups C & D Cl. II, Groups E, F & G Cl. III Enclosure 3, 5 & 12

DSD-SR Series Horsepower Rated Selector Switch* 30 A, 600 V; Front Operated

Ordering Information					
Switch Function	Cat. #	Number of Poles	Number of Positions	Connecting Diagram	
ON/OFF	DSD SR30120 DSD SR30220 DSD SR30320 DSD SR30420 DSD SR30520 DSD SR30620	1 2 3 4 5	2 2 2 2 2 2	1 3 5 7 9 11 2 4 6 8 10 12 1-6	6 Pole
DOUBLE-THROW without OFF	DSD SR30121 DSD SR30221 DSD SR30321	1 2 3	2 2 2	3 5 7 9 11 2 6 10 1-3	B Pole
DOUBLE-THROW without OFF with electrically isolated contacts	DSD SR30123 DSD SR30223 DSD SR30323	1 2 3	2 2 2	1 3 5 7 9 11 0 2 4 6 8 10 12 1-3	B Pole
DOUBLE-THROW with OFF	DSD SR30132 DSD SR30232 DSD SR30332	1 2 3	3 3 3	3 1 7 5 11 9 2 6 10 1-3	B Pole
DOUBLE-THROW with OFF and electrically isolated contacts	DSD SR30134 DSD SR30234 DSD SR30334	1 2 3	3 3 3	3 1 7 5 11 9 4 2 8 6 12 10 1-3	3 Pole

Electrical Specification

	Horsepower Rating		
Voltage	3PH	1PH	
120	3	1.5	
240	7.5	3	
480	10	5	
600	10	5	

Maximum Current: 30 A Heavy-duty A600 rating

Options:

Description Lockout for 2 position switch, handle in either position	Suffix SX178
Lockout for 3 position switch, handle in either position	S349
*For CEC applications only.	



DSD-SR cover assembly shown mounted to an EDS back box

EDS / EFS Series Control Stations

Fully Assembled EFS and EDS Factory Sealed Devices

CI. I, Div. 1 & 2, Groups B*, C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

4C

Applications:

Factory sealed enclosures are installed in a rigid metallic conduit system for surface mounting adjacent to or remote from equipment being controlled and are used:

- To prevent arcing of enclosed device from causing ignition of a specific hazardous atmosphere or atmospheres external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required
- In conjunction with magnetic starters or contactors for remote control of motors

Manual motor starting switch enclosures are used:

- · For manual starting of small AC or DC motors
- To provide manual starting and stopping and, in the case of units with heaters, motor running protection

Features:

Factory sealed devices have many distinct advantages:

- · Reduce installation problems
- · Eliminate external seals
- · Lower installation costs
- · Improve safety
- Are used with general purpose snap and pushbutton type switches
- Standard neoprene covers for front operated pushbuttons.
 Prevents accumulation of dirt and entrance of water around operating shafts
- Mounting lugs and taper tapped hubs with integral bushings
- Large machine screws for fastening covers to bodies
- Lockout provisions on front operated pushbutton (marked "STOP" and "OFF") and selector switch covers
- Lockout hole for padlock having 1/4" hasp is provided when used with covers for front lever and side rocker type operation
- Close tolerances in machining of wide, mating flanges and journalled shafts and bearings for front button operation, produces flametightness of enclosure joints
- On enclosures with front lever and side rocker type operating handles, threaded type shafts and bushings are used to ensure flametightness
- Dead end (EFS or EDS) or through feed (EFSC or EDSC) hubs ½" to 1" sizes
- When STOP is indicated, button is automatically red. When START is indicated, button is automatically green. Otherwise, black buttons are standard.

Certifications and Compliances:

NEC/CEC:

Class I, Division 1 & 2, Groups B*, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 7B*CD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies Feraloy® iron alloy; copper-free aluminum
- Front operated pushbutton and pilot light covers Feraloy iron allov
- Side operated type pushbutton covers copper-free aluminum
- Shafts stainless steel
- Shaft bushings stainless steel
- Rocker handle and pushbutton guards type 6 / 6 nylon
- Sealing enclosures copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Type 6 / 6 nylon black
- Stainless steel natural

Options:

The following special options are available from the factory by adding suffix to Cat. #:

adding sum to out. #.	
Description	Suffix
Emergency "Stop" button (momentary) – front operated rec mushroom button	
 Lockout provision on front operated pushbutton cover 	
(standard on buttons marked "OFF" and "STOP")	S153
For 24 VDC operation on pilot lights	S300
 Three-position selector switches with modified operation: Momentary contact clockwise operation, spring return to 	
center, maintained contact counter-clockwise operation Momentary contact counter-clockwise operation, spring	S634
return to center, maintained contact clockwise operation	S635
Bodies and covers (single and two gang units) – copper-	
free aluminum	SA
 Where indicated in the catalog listings, EDS units suitable for Class I, Division 1, Group B usage can be supplied, add suffix -GB, EFS units are suitable for Class I, Division 1, 	i
Group B as standard	GB
 Maintained contact mushroom head with lockout and 	
guard. May not be combined with a pilot light if a	
transformer is required. (Push to stop only)	S769
Spring return to center from right and left	\$842

EDS bodies and factory sealed cover and device sub-assemblies are available for field assembly (see page 521).

^{*}See suffix GB in Options section

EDS / EFS Series Control Stations

Fully Assembled EFS and EDS Factory Sealed Devices CI. I, Div. 1 & 2, Groups B*, C, D Explosionproof CI. II, Div. 1, Groups E, F, G Dust-Ignitionpr Cl. II, Div. 2, Groups F, G

CI. III NEMA 3, 7B*CD, 9EFG **Dust-Ignitionproof** Raintight Wet Locations

Methods of Factory Sealing

EFS/EDS Series

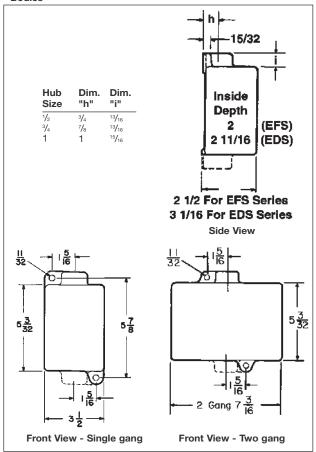




Factory sealed EDS and EFS pilot light, pushbutton and selector switch control stations do not need external sealing. Device contacts are factory sealed in explosionproof ESWP contact blocks. Small, compact enclosures have accurately ground wide flanges on both the body and cover for a flame-tight joint.

Dimensions (Inches) ‡

Bodies



*See suffix GB in Options section.

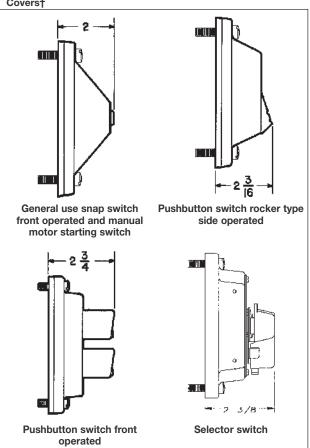
‡Dimensions are approximate, not for construction purposes † Surface covers have same length and width as bodies.

EDS Series



EDS factory sealed snap switches or manual motor starting switches do not need external sealing. The switches are enclosed in a unique sealing well with double flanges which mate with the cover and the body. Small, compact enclosures have accurately ground wide flanges on body, cover and sealing well for flame-tight joints. Wiring pigtails are factory sealed from under the sealing well. Reliable pouring of seals at the factory ensures safe sealing.

Covers†



EDS / EFS Series Control Stations

Fully Assembled EDS Factory Sealed Pushbutton Stations Front Operated, 600VAC Heavy Duty

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG

Dust-Ignitionproof Raintight Wet Locations

4C

Diagram	aia • •	eie eie	A B	ala ala	ala ala
Marking	Specify	Specify	START- STOP unless otherwise specified	Specify	Specify
Ordering Normal Pos.	Informatio 1 Circuit Universal	n - Single G 2 Circuits Universal	ang 2 Circuits■	2 Circuits Universal	2 Circuits■





EDS2184 S769 Maintained **Mushroom Head**

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #	Cat. #§	Cat. #§
	Dead End				
1/2	EDS1184 ①		EDS115 ①		EDS1155 ①
3/4	EDS2184 ①	EDS2190 ①	EDS215 ①	EDS2192 ①	EDS2155 ①
1	EDS3184 ①	EDS3190 ①	EDS315 ①	EDS3192 ①	EDS3155 ①
	Through Feed				
1/2	EDSC1184 ①	EDSC1190 ①	EDSC115 ①	EDSC1192 ①	EDSC1155 ①
3/4	EDSC2184 ①	EDSC2190 ①	EDSC215 ①	EDSC2192 ①	EDSC2155 ①
1	EDSC3184 ①	EDSC3190 ①	EDSC315 ①	EDSC3192 ①	EDSC3155 ①



Dimensions see page 526

Ordering Information - Two Gang

Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits■
Marking	Specify	Specify	START-STOP unless otherwise specified
Diagram	#1# • •	eie eie	A B
Replacement Pushbuttons‡	ED11	ED12	ED12■

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #
	Dead End		
3/4	EDS2284 ①	EDS2290 ①	EDS225 ①
1	EDS3284 ①	EDS3290 ①	EDS325 ①
	Through Feed		
1/2	EDSC1284 ①	EDSC1290 ①	EDSC125 ①
3/4	EDSC2284 ①	EDSC2290 ①	EDSC225 ①
1	FDSC3284 ①	FDSC3290 ①	FDSC325 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below: START OFF RESET LIGHT ON **EMERGENCY** OPEN DOWN RAISE STOP RUN TRIP HAND FORWARD CLOSE IN **LOWER** ON JOG TEST AUTOMATIC REVERSE UP OUT

^{*} Class I, Group B: Consider using EFS series pushbuttons, see page 528. All enclosures listed above can be modified for Class I, Group B, Div. 1 usage. Add suffix GB to the Cat. No. Seals must be installed within 1½" of each conduit opening in Division 1. These products are suitable for Group B, Div. 2 as listed, without external seals. In Canada, for Group B applications

consult factory.

Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed. §Single external button operates both inner buttons simultaneously.

4C EDS / EFS Series Control Stations

Fully Assembled EFS Factory Sealed Pushbutton Stations Front Operated, 600VAC Heavy Duty

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG

Dust-Ignitionproof Raintight Wet Locations

Ordering	Ordering Information					
Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits■	2 Circuits Universal	2 Circuits■	
Marking	Specify	Specify	START- STOP unless otherwise specified	Specify	Specify	
Diagram	<u>aia</u> • •	eie aie	A B		ala ala	
Replacement Pushbuttons‡	ED11	ED12	ED12■	ED12	ED12■	
E	31. B . L1					





EFS2184 START Standard black pushbutton

Dimensions see page 526

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #	Cat. #§	Cat. #§
	Dead End				
1/2	EFS1184 ①		EFS115 ①		EFS1155 ①
3/4	EFS2184 ①	EFS2190 ①	EFS215 ①	EFS2192 ①	EFS2155 ①
1	EFS3184 ①	EFS3190 ①	EFS315 ①	EFS3192 ①	EFS3155 ①
	Through Fee	d			
1/2	EFSC1184 ①	EFSC1190 ①	EFSC115 ①	EFSC1192 ①	EFSC1155 ①
3/4	EFSC2184 ①	EFSC2190 ①	EFSC215 ①	EFSC2192 ①	EFSC2155 ①
1	EFSC3184 ①	EFSC3190 ①	EFSC315 ①	EFSC3192 ①	EFSC3155 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

^{*}Class I, Group B: All enclosures listed above are suitable for Class I, Group B, Div. 1 usage. Seals only have to be installed on 1 inch conduit within 5 ft. in Division 1.

§Single external button operates both inner buttons simultaneously.

[‡]For replacement contact blocks, see page 571.

Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed.

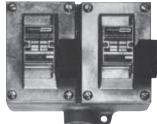
EDS / EFS Series Control Stations

Fully Assembled EDS Factory Sealed Pushbutton Stations Side Rocker Handle, 600VAC Heavy Duty

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof **Dust-Ignitionproof** Raintight Wet Locations





Dimensions see page 526 EDS2696

Ordering Information - Single Gang

Ordering	miomiatio		aarig
Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits■
Marking	Specify	Specify	START-STOP unless otherwise specified
Diagram	**	eis ais	A B
Replacement Pushbuttons‡	ED11	ED12	ED12 ■

tons‡	ED11	ED12	FD

Enclosure with Pushbuttons				
Hub Size	Cat. #	Cat. #	Cat. #	
	Dead End			
1/2	EDS1596 ①		EDS1162 ①	
3/4	EDS2596 ①	EDS2194 ①	EDS2162 ①	
1	EDS3596 ①	EDS3194 ①	EDS3162 ①	
	Through Feed			
1/2	EDSC1596 ①	EDSC1194 ①	EDSC1162 ①	
3/4	EDSC2596 ①	EDSC2194 ①	EDSC2162 ①	
1	EDSC3596 ①	EDSC3194 ①	EDSC3162 ①	

Iwo Gang			
Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits
Marking	Specify	Specify	START-STOP unless otherwise specified
Diagram	<u>aia</u> • •	eie eie	A B
Replacement Pushbuttons‡	ED11	ED12	ED12■

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #
	Dead End		
3/4	EDS2696 ①	EDS2294 ①	EDS2262 ①
1	EDS3696 ①	EDS3294 ①	EDS3262 ①
	Through Fee	d	
1/2	EDSC1696 ①	EDSC1294 ①	EDSC1262 ①
3/4	EDSC2696 ①	EDSC2294 ①	EDSC2262 ①
1	EDSC3696 ①	EDSC3294 1	EDSC3262 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

*Class I, Group B: All enclosures listed above can be modified for Class I, Group B, Div. 1 usage. Add suffix GB to the Cat. No. Seals must be installed within 11/2" of each conduit opening in Division 1. These products are suitable for Group B, Div. 2 as listed, without external seals.

‡For replacement contact blocks, see page 571.

Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed.

4C EDS / EFS Series Control Stations

Fully Assembled EFS Pilot Lights

CI. I, Div. 1 & 2, Groups B*, C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Applications:

EFS pilot lights are used:

- In areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To visually indicate at a remote location that the desired function is being performed

Features:

- Small, compact enclosures with accurately ground flange on both body and cover for flame-tight joint
- Pilot lights are factory sealed. Conventional external seals are not required
- Dead end (EFS) or through feed (EFSC) hubs $\frac{1}{2}$ " to 1" sizes

Certifications and Compliances:

• NEC/CEC:

Class I, Groups B*, C, D Class II, Groups E, F, G Class III

• NEMA/EEMAC: 3, 7B*CD, 9EFG

UL Standard: 1203CSA Standard: C22.2

Standard Materials:

- Bodies Feraloy® iron alloy (U.S.) and copper-free aluminum (Canada)
- Pilot light covers Feraloy iron alloy
- Operating shafts stainless steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized with aluminum acrylic paint
- Copper-free aluminum natural
- Stainless steel natural

Electrical Rating Range:

- Pilot lights 110 to 600VAC
- * External conduit seal required for 1 inch hub size in Division 1, Group B within 5 feet (1.5 meters) of enclosure.





Options:

The following special options are available from factory by adding suffix to Cat. #:

Description Suffix

Pilot lights for circuit voltages up to 600 volts maximum (standard voltage range 110–125) – See Listings

LED pilot lights in place of standard incandescent pilot lamps LED

Bodies and covers – copper-free aluminum SA

24 VDC operation on pilot lights \$300

EDS / EFS Series Control Stations

Fully Assembled EFS Pilot Lights

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Pilot lights listed below are factory sealed and do not require external seals*. Lamps are 6 watt, miniature bayonets, incandescent lamps for use on 110-125 volt circuits.

LED pilot lights can be provided in place of standard incandescent lamps by adding suffix LED after the color symbols. For Options see pages 530-531.

Enclosures with single pilot covers only can be equipped with a transformer for each lamp for high voltages as shown.

Transformer Voltages Above 125							
Nominal Volts 50–60 Hertz Transformer	Primary Voltage Range	Cat. # Suffix					
220 / 110 440 / 110 550 / 110	220–240 440–480 550–600	T2 T4 T5					

Ordering Information

Enclosure with Single Pilot Light±

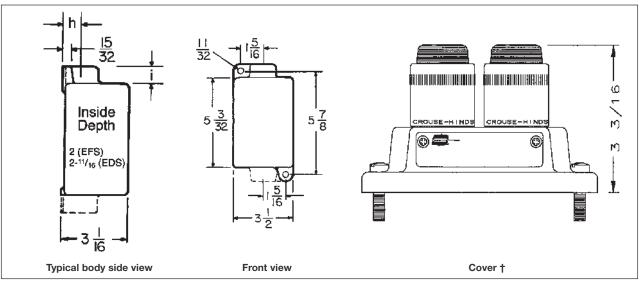
	Dead End Cat. #	Through Feed Cat. #
1/2	EFS11524 ①	EFSC11524 ①
3/4	EFS21524 ①	EFSC21524 ①
1	EFS31524 ①	EFSC31524 ①
Enclosure w	vith Double Pilot Light	s‡
Hub Size	Dead End Cat. #	Through Feed Cat. #
1/2	EFS11561 ①	EFSC11561 ①
3/4	EFS21561 ①	EFSC21561 ①
1	EFS31561 ①	EFSC31561 ①

① Add color symbol for each pilot light from table below. Example: EFS11561 with red and green lights is EFS11561-J1-J3

Color	Symbol	Color	Symbol	Color	Symbol	
Red	J1	Amber	J6	Blue	J11	
Green	J3	Clear	J10			

Dimensions

In Inches:



Dimensions are approximate, not for construction purposes.

Hub Size	Dim. "h"	Dim. "i"	
1/2	3/4	13/16	
3/4	7/8	13/16	
1	1	15/16	

^{*} External conduit seal required for 1 inch hub size in Division 1, Group B within 5 feet (1.5 meters) of enclosure. ‡ LED pilot lights can be furnished in place of standard incandescent pilot lamps.

- Add suffix LED to catalog number after color symbol.

 † Surface covers have same length and width dimensions as bodies.

4C EDS / EFS Series Control Stations

Fully Assembled EDS Factory Sealed Combination Pushbutton and Pilot Light Stations 600VAC, Heavy Duty

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG

Explosionproof Dust-Ignitionproof Raintight Wet Locations

Pushbutton contacts and pilot light receptacles are sealed in separate chambers. External seals are not required. Lamps† are 6 watt, type S6, candelabra base for use on 110-125 volt circuits.

Two gang units with single pilot light covers can be furnished with transformers. Specify markings for each button. See table below listings.







Dimensions see page 526

Ordering Information -Single Gang

Description	Dead End	Through Feed
No. Pushbuttons	1	1
No. Pilot Lights†	1	1
Diagram	@	@
	• •	• •

Ordering Information -Two Gang

iwo dang				
	Dead End	Through Feed	Dead End	Through Feed
No. Pushbuttons	2	2	2	2
No. Pilot Lights†	1	1	2	2
	®	&	&	₩
	#1# • •	#1# * *	@	®
Diagram	ala • •	غلي • •	ala • •	表1条 6 0
			.aia 	<u>ala</u> 8 8
Hub Size	Cat. #	Cat. #	Cat. #	Cat. #
4.1	ED0404E4 00	ED00404E4 00		

Hub Size	Cat. #	Cat. #	Hub Size	Cat. #	Cat. #	Cat. #	Cat. #
1/2	EDS11473 ①②	EDSC11473 ①2	1/2	EDS12471 ①②	EDSC12471 ①②		
3/4	EDS21473 102	EDSC21473 ①2	3/4	EDS22471 ①②	EDSC22471 112	EDS22868 112	EDSC22868 102
1	EDS31473 ①②	EDSC31473 12	1	EDS32471 ①②	EDSC32471 ①②	EDS32868 ①②	EDSC32868 112

① Add color symbol for each pilot light from table below. Example: EDS21473 with a red light is EDS21473-J1

Color	Symbol	Color	Symbol	Color	Symbol	
Red	J1	Amber	J6	Blue	J11	
Green	J3	Clear	J10			

@ If desired, markings on indicating plates may be added to catalog number. Select from the list of stardard markings below:

START	LIGHT ON	DOWN	RUN	FORWARD	ON	AUTOMATIC	OUT
STOP	EMERGENCY	RAISE	TRIP	CLOSE IN	JOG	REVERSE	
RESET	OPEN	STOP	HAND	LOWER	TEST	UP	

^{*} All enclosures listed above can be modified for Class I, Group B, Division 1 usage. Add suffix GB to the Cat. No. Example: EDS11473-J1-GB. Conduit seal(s) must be installed within 11/6" of each conduit opening. These products are suitable for Group B, Div. 2 as listed, without external conduit seals.

† LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED to catalog number after color symbol. For 24 VDC operation on pilot lights add suffix S300.

4C

EDS / EFS Series Control Stations Cl. I, Div. 1 & 2, Groups B*, C, D

Fully Assembled EDS Factory Sealed Selector Switches Maintained Contact, 600VAC Heavy Duty

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Furnished with pushbuttons, cam actuated by a maintained contact selector mechanism to operate in the sequences shown in the diagrams below. Specify indicating plate markings. See table below listings.



Dimensions

see page 526

EDS11273

Ordering Information - Single Gang

					Enclosure with Switch			
Style	Position 1	Position 2	Position 3	Replacement Contact Blocks†	Hub Size	Dead End Cat. #	Through Feed Cat. #	
					1/2	EDS11271 ①	EDSC11271 ①	
Two-Position,	A1 ele	0 0		ED11	3/4	EDS21271 ①	EDSC21271 ①	
Two-Circuit	A2 ◆ ◆	9.0			1	EDS31271 ①	EDSC31271 ①	
	At ela	*1*			1/2	EDS11272 ①	EDSC11272 ①	
Two-Position,	A2 * *	क्रम		ED12	3/4	EDS21272 ①	EDSC21272 ①	
Four-Circuit	Bt ale	€,±			1	EDS31272 ①	EDSC31272 ①	
	82 * *	***						
					1/2	EDS11273 ①	EDSC11273 ①	
Three-Position,	Al <u>ele</u>	<u>• , •</u>	•.•	ED11	3/4	EDS21273 ①	EDSC21273 ①	
Two-Circuit ‡	A2 • •	• •	0 0		1	EDS31273 ①	EDSC31273 ①	
	At ela	0,0	*1°		1/2	EDS11274 ①	EDSC11274 ①	
	A2 * *	<u>0 0</u>	क्ष	ED12	3/4	EDS21274 ①	EDSC21274 ①	
	B1 ala	0,0	₩,±		1	EDS31274 ①	EDSC31274 ①	
Three-Position,	82 • •	<u>0 0</u>	* *					
Four-Circuit ‡	A1 + ₁ =	ale	ele		1/2	EDS11275 ①	EDSC11275 ①	
	A2 8 8	• •	• •	ED12	3/4	EDS21275 ①	EDSC21275 ①	
	B1 ale	ele.	♥.∞		1	EDS31275 ①	EDSC31275 ①	
	B2 • •	• • •	* * *					
	DE -	3.0	-					

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

_	_	٠.		
Two-	PC	IIS(ΙO	n

RUN, JOG
HAND, AUTOMATIC
FORWARD, REVERSE
FURWARD, REVERSE

FAST, SLOW OPEN, CLOSE UP, DOWN ON, OFF

IN, OUT RAISE, LOWER START, STOP

Three-Position

RUN, OFF, JOG HAND, OFF, AUTOMATIC FORWARD, OFF, REVERSE FAST, OFF, SLOW

1, OFF, 2 OPEN, OFF, CLOSE UP, OFF, DOWN

^{*}For Class I, Group B: Consider using EFS series selector switches, see page 534. All enclosures listed above can be modified for Class I, Group B, Div. 1 usage. Add suffix GB to the Cat. No. Seals must be installed within 11/2" of each conduit opening in Division 1. These products are suitable for Group B, Div. 2 as listed, without external seals. In Canada, for Group B applications consult factory.

[†] For replacement contact blocks, see page 571.
‡ Suffixes S634 or S635 may be used on these catalog numbers. See page 525 for explanation of options.

4C EDS / EFS Series Control Stations

Fully Assembled EFS Factory Sealed Selector Switches Maintained Contact, 600VAC Heavy Duty Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG

Explosionproof Dust-Ignitionproof Raintight Wet Locations

Furnished with pushbuttons, cam actuated by a maintained contact selector mechanism to operate in the sequences shown in the diagrams below. Specify indicating plate markings. See table below listings.



Dimensions see page 526

EFS11273

Ordering Information - Single Gang

				Enclos	Enclosure with Switch		
Style	Position 1	Position 2	Position 3	Replacement Contact Blocks†	Hub Size	Dead End Cat. #	Through Feed Cat. #
					1/2	EFS11271 ①	EFSC11271 ①
Two-Position,	A1 <u>e.i.e.</u>	* j *		ED11	3/4	EFS21271 ①	EFSC21271 ①
Two-Circuit	A2 • •	8'8			1	EFS31271 ①	EFSC31271 ①
	At ela	**			1/2	EFS11272 ①	EFSC11272 ①
Two-Position,	A2 * *	क क		ED12	3/4	EFS21272 ①	EFSC21272 ①
Four-Circuit	Bt ale	●, ■			1	EFS31272 ①	EFSC31272 ①
	82 • •	* a					
					1/2	EFS11273 ①	EFSC11273 ①
Three-Position,	A1 <u>e.i.e.</u>	910	* j *	ED11	3/4	EFS21273 ①	EFSC21273 ①
Two-Circuit ‡	A2 • •	• •	8.0		1	EFS31273 ①	EFSC31273 ①
	At ela	0,6	**		1/2	EFS11274 ①	EFSC11274 ①
	A2 * *	• • • •	व व	ED12	3/4	EFS21274 ①	EFSC21274 ①
	Bt ale	0,0	●, ■		1	EFS31274 ①	EFSC31274 ①
Three-Position,	82 • •	<u> </u>	* i *				
Four-Circuit ‡	A1 + ₁ =	ais	ela		1/2	EFS11275 ①	EFSC11275 ①
	A2 8 €	• •	• •	ED12	3/4	EFS21275 ①	EFSC21275 ①
	81 ala	<u>ala</u>	•,•		1	EFS31275 ①	EFSC31275 ①
	B2 • •	• •	* <u>*</u> *				

①If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Two-Position

RUN, JOG HAND, AUTOMATIC FORWARD, REVERSE

FAST, SLOW OPEN, CLOSE UP, DOWN ON, OFF

IN, OUT RAISE, LOWER START, STOP

Three-Position

RUN, OFF, JOG 1, OFF, 2 HAND, OFF, AUTOMATIC OPEN, OFF, CLOSE FORWARD, OFF, REVERSE UP, OFF, DOWN FAST, OFF, SLOW

^{*}Class I, Group B: All enclosures listed above are suitable for Class I, Group B, Div. 1 usage. Seals only have to be installed on 1 inch conduit within 5 ft. in Division 1.

[†] For replacement contact blocks, see page 571. ‡ Suffixes S634 or S635 may be used on these catalog numbers. See page 525 for explanation of options.

EDS / EFS Series Control Stations Cl. I, Div. 1 & 2, Groups B*, C, D

Fully Assembled EDS Factory Sealed General Use Snap Switches

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations





Dimensions see page 526

Ordering Information - General Use Snap Switch - Front Operated

				Singl	Single Gang		Two Gang‡		
Hub		Am	peres	Dead End	Through	Dead End	Through	Factory Sealed Replacement	
Size	Style†	120VAC§	277VAC§	Cat. #	Feed Cat. #	Cat. #	Feed Cat. #	Switch	
3/4	1-pole	20	20	EDS2129	EDSC2129†	EDS2229	EDSC2229†	SW5	
3/4	2-pole	20	20	EDS218	EDSC218†		EDSC228†	SW6	
3/4	3-way	20	20	EDS2130	EDSC2130	EDS2230	EDSC2230	SW7	
3/4	4-way	20	20	EDS2140	EDSC2140		EDSC2240	SW8	
1	1-pole	20	20	EDS3129	EDSC3129†	EDS3229	EDSC3229†	SW5	
1	2-pole	20	20	EDS318	EDSC318†	EDS328	EDSC328†	SW6	
1	3-way	20	20	EDS3130	EDSC3130	EDS3230	EDSC3230	SW7	
1	4-way	20	20	EDS3140	EDSC3140	EDS3240	EDSC3240	SW8	

^{*}Standard as Class I, Division 2, Group B. No seals required. For Class I, Division 1, Group B: All units on this page can be modified for Class I, Division 1, Group B usage. Add suffix GB to the Cat. No. Seals must be installed within 11/2" of each conduit opening in Division 1.
† ON-OFF standard marking for 1-pole and 2-pole units.
‡ Combinations of switches can be furnished.
§ AC rated switches are tested for resistive, inductive and tungsten filament loads up to the full current rating and for motor loads up to 80% of the ampere rating.

4C EDS / EFS Series Control Stations

Fully Assembled EDS Factory Sealed Manual Motor Starting Switches and Enclosures

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG

Dust-Ignitionproof Raintight Wet Locations





EDSC2199

EDS2229

Ordering Information

With Allen-Bradley Bulletin 600 Switches Maximum HP Ratings

Poles	115–2 Volts			lley Switch		
1	1 hp		A B BUL 6	00 T0X4		
2	1 hp	³/ ₄ hp	A B BUL 6	00 T0X5		
Poles	Hub Size in.	Dead End Cat. #	Through Feed Cat. #	Factory Sealed Replacement Switch		
Single C	Single Gang					
	3/4	EDS2199 ①	EDSC2199 ①	SW9		
1	1	EDS3199 ①	EDSC3199 ①	SW9		
	3/4	EDS21100 ①	EDSC21100 ①	SW10		
2	1	EDS31100 ①	EDSC31100 ①	SW10		
Two Ga	ng					
	3/4	EDS2299 ①	EDSC2299 ①	SW9		
1	1	EDS3299 ①	EDSC3299 ①	SW9		
	3/4	EDS22100 ①	EDSC22100 ①	SW10		
2	1	EDS32100 ①	EDSC32100 ①	SW10		

Heater Table (Allen Bradley)

Max. Motor Full-Load Amps	Eaton's Crouse- Hinds Symbol Number	Max. Motor Full-Load Amps	Eaton's Crouse- Hinds Symbol Number
0.17	P1	2.40	P20
0.21	P2	2.58	P21
0.25	P3	2.92	P22
0.32	P4	3.09	P23
0.39	P5	3.32	P24
0.46	P6	3.77	P25
0.57	P7	4.16	P26
0.71	P8	4.51	P27
0.79	P9	4.93	P28
0.87	P10	5.43	P29
0.98	P11	6.03	P30
1.08	P12	6.83	P31
1.19	P13	7.72	P32
1.30	P14	8.24	P33
1.43	P15	8.90	P34
1.58	P16	9.60	P35
1.75	P17	10.80	P36
1.88	P18	12.00	P37
2.13	P19	13.50	P38
		15.20	P39

These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C, multiply full load motor current by 0.9 and use this value to select heaters. Symbol 0 (zero) must be used to indicate heater omitted. Includes one interchangeable heater. Select heater from the table below individual listings and use symbol number as second section of the Cat. No. Example: EDS21101-W5. Insert symbol 0 (zero) to omit heater.

^{*} Class I, Group B: All units on this page can be modified for Class I, Group B usage. Add suffix GB to the Cat. No. Seals must be installed within 11/2* of each conduit opening in Division 1. In Canada, for Group B applications consult factory.

① Includes one interchangeable heater. Select from the heater table and use symbol number as second section of the Cat. No. Example: EDS2199-P5. Insert symbol 0 (zero) to omit heater.

Cutler-Hammer

EDS / EFS Series Control Stations

Fully Assembled EDS Factory Sealed Manual Motor Starting Switches and Enclosures

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG

120-240 32

Dust-Ignitionproof Raintight Wet Locations

Ordering Information With General Electric Switches Maximum HP Ratings

		-	230 Volts D	G.E. Swit C Cat. #	ch
1 hp	1 h	ηp	¹/₄ hp	CR101 Y	
1 hp	1 h	np	1 hp	CR101 H	
Hub Size in.	Dead End Cat. #	Fe	ed	Factory Sea Replaceme Switch	
Gang					
3/4	EDS2109	3 ① ED	SC21093	SW11	
1	EDS3109	3 ① ED	SC31093	SW11	
3/4	EDS2109	4 ① ED	SC21094 (SW12	
1	EDS3109	4 ① EC	SC31094 (SW12	
ang					
3/4	EDS2209	3 ① ED	SC22093	SW11	
1	EDS3209	3 ① EC	SC32093	SW11	
3/4	EDS2209	4 ① ED	SC22094 (SW12	
1	EDS3209	4 ① ED	SC32094	SW12	
	Volts / 1 hp 1 hp Hub Size in. Gang % 1 1 % 1 3/4 1 3/4 1 3/4 1 3/4	Volts AC Vo 1 hp	Volts AC Volts DC 1 hp	Volts AC Volts DC Volts D 1 hp 1 hp ½ hp 1 hp 1 hp ½ hp 1 hp 1 hp 1 hp Hub Size End in. Cat. # Feed Cat. # Gang ¾ EDS21093 ① EDSC21093 ② 1 EDS31093 ① EDSC31093 ② EDSC31094 ② 1 EDS31094 ① EDSC31094 ② EDSC31094 ③ 1 EDS32093 ① EDSC32093 ③ EDSC32093 ③ 3/4 EDS22093 ① EDSC32093 ③ EDSC32093 ③ 3/4 EDS22094 ① EDSC32094 ③ EDSC32094 ③	Volts AC Volts DC Volts DC Cat. # 1 hp 1 hp ½ hp CR101 Y 1 hp 1 hp 1 hp CR101 H Hub Dead Size End Feed Feed Feed Cat. # Factory Sea Replaceme Switch Gang ¾ EDS21093 ① EDSC21093 ① SW11 1 EDS31093 ② EDSC31093 ② SW11 ¾ EDS21094 ① EDSC31094 ① SW12 1 EDS31094 ② EDSC31094 ② SW12 ang ¾ EDS22093 ② EDSC32093 ③ SW11 1 EDS32093 ② EDSC32093 ③ SW11 ¾ EDS22094 ① EDSC22094 ① SW12

Ordering Information With Cutler-Hammer Switches Maximum HP Ratings

Poles	Volts	AC	Volts DC	Volts DC	Volt	s DC	Switch Cat. #
1	1 hp		¹/₄ hp		¹/₄ hṛ)	MST01
2	1 hp		¹/₄ hp	1 hp	1 hp)	MST02
Poles	Hub Size in.	Dea End Cat		Through Feed Cat. #			ory Sealed lacement ch
Single	Gang	J					
4	3/4	EDS	321101 ①	EDSC2110	1 ①	SW1	3
1	1	EDS	31101 ①	EDSC3110	1 ①	SW1	3
	3/4	EDS	S21102 ①	EDSC2110	2 ①	SW1	4
2	1	EDS	31102 ①	EDSC3110	2 ①	SW1	4
Two G	ang						
4	3/4	EDS	S22101 ①	EDSC2210	1 ①	SW1	3
1	1	EDS	32101 ①	EDSC3210	1 ①	SW1	3
	3/4	EDS	S22102 ①	EDSC2210	2 ①	SW1	4
2	1	EDS	32102 ①	EDSC3210	2 ①	SW1	4

• Heater Table (General Electric)

of ioutor	idbic (GCII	Ciui Licotiic	')
Max. Motor Full-Load Amps	Eaton's Crouse- Hinds Symbol Number	Max. Motor Full-Load Amps	Eaton's Crouse- Hinds Symbol Number
		3.01	G22
.48	G2	3.27	G23
.53	G3	3.56	G24
.58	G4	3.88	G25
.65	G5	4.22	G26
.71	G6	4.60	G27
.78	G7	5.00	G28
.86	G8	5.43	G29
.95	G9	5.90	G30
1.04	G10	6.41	G31
1.14	G11	6.98	G32
1.25	G12	7.60	G33
1.37	G13	8.25	G34
1.49	G14	8.95	G35
1.63	G15	9.75	G36
1.78	G16	10.60	G37
1.95	G17	11.40	G38
2.13	G18	12.50	G39
2.32	G19	13.60	G40
2.53	G20	14.80	G41
2.76	G21	16.00	G42

Lastor Toble (Cutler Hommer)

Max. Motor Full-Load Amps	Eaton's Crouse- Hinds Symbol Number	Max. Motor Full-Load Amps	Eaton's Crouse- Hinds Symbol Number
.43	W1	2.95	W21
.48	W2	3.27	W22
.53	W3	3.59	W23
.58	W4	3.99	W24
.64	W5	4.39	W25
.71	W6	4.79	W26
.78	W7	5.26	W27
.87	W8	5.83	W28
.95	W9	6.39	W29
1.03	W10	7.03	W30
1.15	W11	7.74	W31
1.27	W12	8.46	W32
1.35	W13	9.35	W33
1.51	W14	10.30	W34
1.67	W15	11.35	W35
1.83	W16	12.47	W36
1.99	W17	13.67	W37
		10.00	VVOS
2.23 2.47 2.71	W18 W19 W20	15.12 16.00	W38 W39

Dimensions

see page 526

These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C, multiply full load motor current by 0.9 and use this value to select heaters. Symbol 0 (zero) must be used to indicate heater omitted. Includes one interchangeable heater. Select heater from the table below individual listings and use symbol number as second section of the Cat. No. Example: EDS21101-W5. Insert symbol 0 (zero) to omit heater.

Class I, Group B: All units on this page can be modified for Class I, Group B usage. Add suffix GB to the Cat. No. Seals must be installed within 11/2 of each conduit opening in Division 1.

In Canada, for Group B applications consult factory.

① Includes one interchangeable heater. Select from the heater table and use symbol number as second section of the Cat. No. Example: EDS2199-P5. Insert symbol 0 (zero) to omit heater.

4C

EDS / EFS Series Control Stations

Fully Assembled EFS Fire Alarm Station

Cl. I, Div. 1, Groups B*, C, D Explosionproof Cl. I, Div. 2, Groups B, C, D Dust-Ignitionpro Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

Dust-Ignitionproof Raintight Wet Locations

CI. III NEMA 3, 7B*CD, 9EFG

EFS21095

Applications:

EFS Fire Alarm Stations are used:

- In areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- · For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To indicate at a remote location that a fire exists in the area

Features:

- Small, compact enclosures with accurately ground flange on both body and cover for flame-tight joint
- Available in red for fire alarm applications

Certifications and Compliances:

• NEC

Class I, Groups B*, C, D Class II, Groups E, F, G Class III

- NEMA 3, 7B*CD, 9EFG
- UL Standard: 1203
- · As indicated under catalog listings, certain units can be supplied for Class I, Division 1, Group B (NEMA 7B). Seals must be installed within 1½" of each conduit opening.

Standard Materials:

• Bodies - Feraloy® iron alloy (U.S.) and copper-free aluminum (Canada)

Standard Finishes:

- Feraloy iron alloy electrogalvanized with aluminum acrylic
- Copper-free aluminum natural
- Stainless steel natural

Options:

The following special option is available from factory by adding suffix to Cat. #:

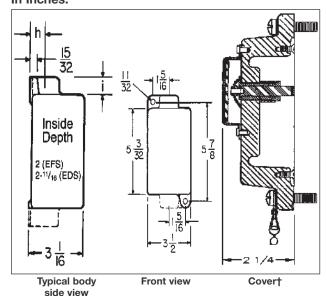
Description

Where indicated in the catalog listings, units suitable for Class I, Division 1, Group B usage can be supplied..... GB*

Ordering Information

Hub Size	Dead End Cat. #	Through Feed Cat. #
3/4	EFS21095	EFSC21095

Dimensions In Inches:



Hub Size	Dim."h"	Dim."i"
1/2	3/4	13/16
3/4	7/8	13/16
1	1	13/16

Dimensions are approximate, not for construction purposes

†Surface covers have same length and width dimensions as bodies.
*Class I, Group B option: Units listed above can be modified for Class I, Division 1, Group B usage. Add suffix GB to the Cat. No. Example: EFS21095-GB. Seals must be installed within 1½" of each conduit opening.

Suffix

EDS / EFS Series Control Stations

Sub-assembly Reference Guide

For a complete list of components for EDS & EFS Control Stations, see page 514 for FlexStation™ Series

Control Stations and their Sub-assemblies

Complete Control	Sub-assembly				
Station	Cover & Device Cast Back Box Notes and Requirements		Notes and Requirements		
PUSHBUTTONS					
EDS2184	DSD918	EDS271			
EDSC2184	DSD918	EDSC271			
EDS215	DSD922	EDS271	Start/ Stop Legend included		
EDSC215	DSD922	EDSC271	Start/ Stop Legend included		
EDS2190	DSD921	EDS271			
EDSC2190	DSD921	EDSC271			
EDS2184-S769-EM-SP	DSD918-S769-EM-SP	EDS271	Emergency Stop Legend included		
EDSC2184-S769-EM-SP		EDSC271	Emergency Stop Legend included		
EDS2284	(2) DSD918	EDS272	Zinio gono, otop zogona moladou		
EDSC2284	(2) DSD918	EDSC272			
EDS225	(2) DSD922	EDS272	Start/ Stop Legend included		
EDSC225	(2) DSD922	EDSC272	Start/ Stop Legend included		
EDS2290	(2) DSD921	EDS272	Ctary Ctop Edgorid Moladod		
EDSC2290	(2) DSD921	EDSC272			
	(2) 202021	EBGOLIE			
PILOT LIGHTS					
EFS21524-J*	DSD948-J*	EDS271 †	* Insert pilot light color		
EFSC21524-J*	DSD948-J*	EDSC271 †	† When using the EFS Series pilot light in Cl. I, Div. 1, Group B		
EFS21561-J*-J*	DSD947-J*-J*	EDS271 †	applications, the EFS back box is required in place of the EDS.		
EFSC21561-J*-J*	DSD947-J*-J*	EDSC271 †	applications, the Li o back box is required in place of the Lbo.		
PUSHBUTTON / PILOT I	LIGHT COMBINATIONS				
EDS21473-J*	DSD958-J*	EDS271	* Insert pilot light color		
EDSC21473-J*	DSD958-J*	EDSC271	* Insert pilot light color		
EDS22471-J*	DSD948-J* & DSD921	EDS272	* Insert pilot light color		
EDSC22471-J*	DSD948-J* & DSD921	EDSC272	* Insert pilot light color		
EDS22868-J*-J*	DSD947-J*-J* & DSD921	EDS272	* Insert pilot light color		
EDSC22868-J*-J*	DSD947-J*-J* & DSD921	EDSC272	* Insert pilot light color		
SELECTOR SWITCHES					
EDS21271	DSD923	EDS271			
EDSC21271	DSD923	EDSC271			
EDS21272	DSD924	EDS271			
EDSC21272	DSD924	EDSC271			
EDS21273	DSD925	EDS271			
EDSC21273	DSD925	EDSC271			
EDS21274	DSD926	EDS271			
EDSC21274	DSD926	EDSC271			
EDS21275	DSD927	EDS271			
EDSC21275	DSD927	EDSC271			
MANUAL MOTOR STAR					
EDS21101	DS415A & SW13	EDS271	"-W * " for heater, or "-0" distributor provided		
EDSC21101	DS415A & SW13	EDSC271	"-W * " for heater, or "-0" distributor provided		
EDS21102	DS415A & SW14	EDS271	"-W * " for heater, or "-0" distributor provided		
EDSC21102	DS415A & SW14	EDSC271	"-W * " for heater, or "-0" distributor provided		
EDS21093	DS415A & SW11	EDS0271	"-G * " for heater, or "-0" distributor provided		
EDSC21093	DS415A & SW11	EDSC271	"-G * " for heater, or "-0" distributor provided		
EDSC21093 EDS21094	DS415A & SW12	EDS0271	"-G * " for heater, or "-0" distributor provided		
EDSC21094	DS415A & SW12	EDSC271	"-G * " for heater, or "-0" distributor provided		
EDSC21094 EDS2199	DS415A & SW12	EDSC271	"-P * " for heater, or "-0" distributor provided		
EDSC2199	DS415A & SW9	EDS271	"-P * " for heater, or "-0" distributor provided		
EDSC2199 EDS21100	DS415A & SW9 DS415A & SW10	EDSC271 EDS271	" D * " for heater, or " 0" distributor provided		
EDS21100 EDSC21100	DS415A & SW10 DS415A & SW10	EDS271 EDSC271	"-P * " for heater, or "-0" distributor provided "-P * " for heater, or "-0" distributor provided		
LD3021100	D0410A & 3W1U	LDSUZII	-r for fleater, or -o distributor provided		

Sub-assembly Reference Guide

Control Stations and their Sub-assemblies

	Sub-assembly				
Complete Control Station	Cover & Device	Cast Back Box	Notes and Requirements		
MANUAL MOTOR STARTER					
EFD218-T8	DSD916	EDS271			
Alternative	DS415A & SQ D 2510 KO-1	EDS271	SQ D switch provided by distributor		
EFDC218-T8	DSD916	EDSC271	og Bomion promaca by alcumbator		
Alternative	DS415A & SQ D 2510 KO-1	EDSC271	SQ D switch provided by distributor		
EFD2419	DSD917	EDS271	, , , , , , , , , , , , , , , , , , , ,		
Alternative	DS415A & GE 2368S	EDS271	GE switch provided by distributor		
EFDC2419	DSD917	EDSC271			
Alternative	DS415A & GE 2368S	EDSC271	GE switch provided by distributor		
SNAP SWITCHES					
EDS2129	DS652 & SW5	EDS271			
Alternative	DSD933	EDS271	External Sealing Fitting Required		
EDSC2129	DS652 & SW5	EDSC271	0 0		
Alternative	DSD933	EDSC271	External Sealing Fitting Required		
EDS218	DS652 & SW6	EDS271	<u> </u>		
Alternative	DSD634	EDS271	External Sealing Fitting Required		
EDSC218	DS652 & SW6	EDSC271			
Alternative	DSD634	EDSC271	External Sealing Fitting Required		
EDS2130	DS652 & SW7	EDS271			
Alternative	DSD936	EDS271	External Sealing Fitting Required		
EDSC2130	DS652 & SW7	EDSC271			
Alternative	DSD936	EDSC271	External Sealing Fitting Required		
EDS2140	DS652 & SW8	EDS271			
Alternative	DSD937	EDS271	External Sealing Fitting Required		
EDSC2140	DS652 & SW8	EDSC271			
Alternative	DSD937	EDSC271	External Sealing Fitting Required		
EDS2229	(2) DS652 & (2) SW5	EDS272			
Alternative	(2) DSD933	EDS272	External Sealing Fitting Required		
EDSC2229	(2) DS652 & (2) SW5	EDSC272			
Alternative	(2) DSD933	EDSC272	External Sealing Fitting Required		
EDSC228	(2) DS652 & (2) SW6	EDSC272			
Alternative	(2) DSD634	EDSC272	External Sealing Fitting Required		
EDS2230	(2) DS652 & (2) SW7	EDS272			
Alternative	(2) DSD936	EDS272	External Sealing Fitting Required		
EDSC2230	(2) DS652 & (2) SW7	EDSC272			
Alternative	(2) DSD936	EDSC272	External Sealing Fitting Required		
EDSC2240	(2) DS652 & (2) SW8	EDSC272			
Alternative	(2) DSD937	EDSC272	External Sealing Fitting Required		
ROCKER SWITCHES	1 2224				
EDS2596	DSD949	EDS271			
EDSC2596	DSD949	EDSC271	0, 1/0, 1, 1, 1, 1		
EDS2162	DSD951	EDS271	Start/ Stop Legend included		
EDSC2162	DSD951	EDSC271	Start/ Stop Legend included		
EDS2194	DSD950	EDS271			
EDSC2194	DSD950	EDSC271	Object/ Object consideration to all of		
EDS2696	(2) DSD949	EDS272	Start/ Stop Legend included		
EDSC2696	(2) DSD949	EDSC272	Start/ Stop Legend included		
EDS2262	(2) DSD951	EDS272			
EDSC2262	(2) DSD951	EDSC272			
EDS2294	(2) DSD950	EDS272			
EDSC2294	(2) DSD950	EDSC272			

- See Eaton's Crouse-Hinds' installation instructions for any possible additional sealing requirements.
- Part numbers listed with 3/4" hub in back box (Ex. EDS2184). For 1/2" hub, change the "2" to "1" (EDS1184). For 1" hub, change the "2" to "3" (EDS3184).
- Control Stations with "Stop" legend have lockout provided as standard.
- Pilot Light Colors J*-- J1= Red, J3= Green, J6= Amber, J10= Clear, J11= Blue. LED pilot lights are available with LED suffix.
- Pilot Light Transformers for voltages over 125V. Suffix T2= 240/220 110V, T4= 480/440 110V, T5= 600/500 110V (not available on double pilot cover).
- Standard legend plate markings are available by adding nomenclature after the part number (EDS2184-Run).
- Selector switch nameplate kits available. 2-Pos = "SS2KIT", 3-Pos = "SS3KIT". See Replacement Parts book for additional information.
- Copper-free aluminum bodies and covers available with SA suffix.
- Additional control station options may be found in Section 4C.
- Group B ratings may be achieved by adding the GB suffix or using the EFS back box. See part number instructions for the item required.
- Group B ratings may already be achieved when used in Class I, Division 2 applications. See Certifications and Compliances for item required.
- Additional control station configurations available through the FlexStation Component Series.

LED

4C

Pushbutton Stations, Selector Switches and Pilot Lights **600 VAC Heavy Duty**

Applications:

MC pushbuttons or selector switches are used:

- In conjunction with magnetic starters or contactors for remote control of motors MC pilot lights are used:
- To visually indicate at a remote point that the desired function is being performed (motor running, etc.)

MC pushbuttons, selector switches or pilot lights are used:

• In damp, wet or corrosive locations such as dairies, meat packing plants, chemical plants and outdoor locations

Features:

- Enclosures are compact in design, and gasketed to meet NEMA/EEMAC 3 or 4 requirements as noted in catalog listings
- · Pushbutton stations with side rocker handle are furnished with a lockout arrangement on "STOP" position as standard
- Dead end (MC) or through feed (MCC) hubs - 1/2" and 3/4" sizes - with mounting
- Standard lockout on "STOP" and "OFF" button on front operated pushbutton
- · Standard lockout on selector switch covers. Locks two or three position switch handle in any position.

Certifications and **Compliances:**

- NEMA/EEMAC 3, 4
- UL Standard: 508
- CSA Encl. 3, 4, 5

Standard Materials:

- Bodies Feraloy® iron alloy
- Cover with side rocker handle copperfree aluminum
- Front pushbutton, selector switch and pilot light covers - Feraloy iron alloy
- Rocker handle and pushbutton guards type 6 / 6 nylon
- Selector switch handle copper-free aluminum
- Operating shafts stainless steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Type 6 / 6 nylon black
- Stainless steel natural

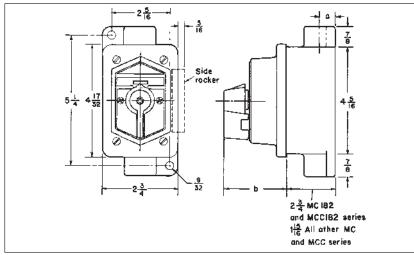
Options:

The following special options are available by adding suffix to Cat. #: Description Suffix Lockout provision on front operated pushbutton (standard on buttons marked "OFF" and "STOP")..... S153 Neoprene covers for front operated pushbuttons. Meets NEMA 4 requirements and prevents accumulation of dirt around operating shafts..... S323 Three-position selector switches with modified operation: Momentary contact clockwise operation, spring return to center, maintained contact counter-clockwise operation..... S634 Momentary contact counter-clockwise operation, spring return to center, maintained contact clockwise operation..... S635 Multiple gang bodies. Two gang, two gang tandem and three, four or five gang

LED pilot lights in place of standard incandescent pilot lamps.....

Dimensions

In Inches*:



Hub size	а	Type of Cover	b
1/2	5/8	Side Rocker Handle	11/2
3/4	3/4	Front Pushbutton	23/8
		Selector Switch	23/8
		Pilot Light	11/16

*Dimensions are approximate, not for construction purposes

Pushbutton Stations, Selector Switches and Pilot Lights **600 VAC Heavy Duty**



MC dead end side rocker handle



MCC through feed side rocker handle



MC dead end front pushbutton



MCC through feed front pushbutton

Ordering Information - With Side Rocker Handles Watertight, NEMA 3, 4

				Enclo	sure with Rock	ker Handles
Normal Positions	Marking	Diagram	Replacement Contact Blocks‡	Hub Size	Dead End Cat. #	Through Feed Cat. #
1 Circuit Universal	Specify	<u>aia</u> • •	ED11	1/ ₂ 3/ ₄	MC1810U1 ① MC2810U1 ①	MCC1810U1 ① MCC2810U1 ①
2 Circuits Universal	Specify		ED12	1/ ₂ 3/ ₄	MC1810U ① MC2810U ①	MCC1810U ① MCC2810U ①
2 Circuits 1 Open - A 1 Closed - B	START-STOP unless otherwise specified	A B	ED12*	1/ ₂ 3/ ₄	MC1810 ① MC2810 ①	MCC1810 ① MCC2810 ①

Ordering Information - With Front Pushbuttons Weather Resistant, NEMA 3 §

				Enclosure with Pushbuttons				
Normal Positions	Marking	Diagram	Replacement Contact Blocks‡	Hub Size	Dead End Cat. #	Through Feed Cat. #		
1 Circuit Universal	Specify	<u>aia</u> • •	ED11	1/ ₂ 3/ ₄	MC1910U1 ① MC2910U1 ①	MCC1910U1 ① MCC2910U1 ①		
2 Circuits Universal	Specify	eir eir	ED12	1/ ₂ 3/ ₄	MC1910U ① MC2910U ①	MCC1910U ① MCC2910U ①		
2 Circuits 1 Open - A 1 Closed - B	START-STOP unless otherwise specified	A B	ED12*	1/ ₂ 3/ ₄	MC1910 ① MC2910 ①	MCC1910 ① MCC2910 ①		

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIO
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

Pushbutton Stations, Selector Switches and Pilot Lights **600 VAC Heavy Duty**



MC dead end selector switch

Ordering Information - Selector Switches

Furnished with pushbutton contact blocks, cam actuated by a maintained contact selector mechanism to operate in the sequences shown in the diagrams below.

Maintaine	ed Contact				Enclosure with Selector Switch			
Style	Position 1	Position 2	Position 3	Replacement Contact Blocks*	Hub Size	Dead End Cat. #	Through Feed Cat. #	
Two- Position, Two- Circuit	A1 ala A2 • •	*,* # #		ED11	1/ ₂ 3/ ₄	MC11271 ① MC21271 ①	MCC11271 ① MCC21271 ①	
Two- Position, Four- Circuit	A1 aia A2 * * B1 aia B2 * *	*		ED12	1/ ₂ 3/ ₄	MC11272 ① MC21272 ①	MCC11272 ① MCC21272 ①	
Three- Position, Two- Circuit †	A1 <u>aia</u> A2 • •	• • •1•	* **	ED11	1/ ₂ 3/ ₄	MC11273 ① MC21273 ①	MCC11273 ① MCC21273 ①	
Three- Position,	A1 min A2 • • B1 min B2 • •	0 0 0 0	34 34	ED12	1/ ₂ 3/ ₄	MC11274 ① MC21274 ①	MCC11274 ① MCC21274 ①	
Four- Circuit †	A1 • • • A2 • • B1 <u>ala</u> B2 • •	818 • • #18 • •	010 0 0 0 0	ED12	1/ ₂ 3/ ₄	MC11275 ① MC21275 ①	MCC11275 ① MCC21275 ①	

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	



MC dead end pilot light

Ordering Information - Pilot Lights‡

			Enclos	ure with Jewel Co	ver and Lamp	
Primary Voltage Range	Lamp Base	Lamp Watts	Hub Size	Dead End Cat. #	Through Feed Cat. #	
110–125	Candelabra	6	1/ ₂	MC180 J1	MCC180 J1	_
110–125	Candelabra	6	3/ ₄	MC-280-J1	MCC280 J1	
220–250	Intermediate	10	1/ ₂	MC184 J1	MCC184 J1	
220–250	Intermediate	10	3/ ₄	MC-284-J1	MCC284 J1	
440–480	Candelabra	6	1/ ₂	MC182 J1	MCC182 J1	
440–480	Candelabra	6	3/ ₄	MC282 J1	MCC282 J1	

^{*} For replacement contact blocks see page 571.
† Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.
‡LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED after color symbol (J1).

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7BCD (Div. 2), 12 Watertight Weatherproof Dust-tight

Applications:

N2S and N2SC pushbutton stations, selector switches and pilot lights are suitable for use:

- In Class I, Groups B, C, D; Division 2 hazardous areas where flammable vapors or gases may be present due to accidental or abnormal operation
- In damp, wet, or corrosive locations
- Indoors or outdoors in Division 2 areas of petroleum refineries, chemical plants and other process industry facilities where similar hazards exist

N2S and N2SC pushbutton stations and selector switches are used:

- In conjunction with magnetic starters or contactors for remote control of motors N2S and N2SC pilot lights are used:
- To visually indicate at a remote location that the desired function is being performed

Optional maintained stop pushbutton(s) are used: As emergency or normal stop button(s) in motor control circuits for positive shutdown.

Features:

- Pushbutton stations, pilot lights, and selector switch devices are factory sealed. External seals are not required.
- Enclosures are made of Krydon® fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat and sunlight.
- Optional maintained stop feature operates by depressing the mushroom head pushbutton. Pushbutton must be manually pulled before start button can be actuated.
- Lockout is standard on selector switch devices.
- Factory installed dead end (N2S) or through feed (N2SC) hubs – ½", ¾", and 1" sizes.
- Indicating plates are available with a choice of 40 standard markings.
- Grounding plate included with each hub.

Certifications and Compliances:

• NEC:

Class I, Division 2, Groups B, C & D

- NEMA: 3, 4X, 7BCD (Division 2) and 12
- UL Standard: 1203
- CSA Standard: C22.2 Nos. 14 & 30

Electrical Rating Ranges:

- Pushbutton stations and selector switches – heavy duty 600 VAC maximum
- Pilot lights 120 to 600 VAC



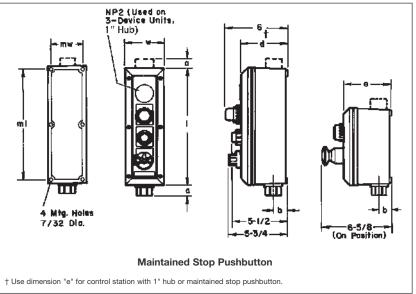


Options:

The following special options are available from factory by adding suffix to Cat. #:	
Description	Suffix
Padlock attachments for all pushbuttons. For "START-STOP" stations, only "STOP"	
button provided with lockout (lockout standard with STOP)	S708
Three position selector switches with modified operation:	
Momentary contact clockwise operation, spring return to center, maintained contact	
counterclockwise operation	S634
Momentary contact counterclockwise operation, spring return to center, maintained	
contact clockwise operation	S635
Control station with maintained stop pushbutton (requires NCD type enclosure):	
One maintained stop pushbutton	MSR1
Two maintained stop pushbuttons	MSR2
Maintained stop pushbuttons are installed at bottom position(s) of control station unless otherwise specified. LED pilot lights in place of standard incandescent pilot lamps	LED

Dimensions

In Inches:



Dimensions are approximate, not for construction purposes.

N2S(C) Body Style	Outsid Dims. I	e w	(NCS)*	(NCD)* e	Mount Dims. ml	ing mw	½" 8 Hub a	& ¾" os b	1" Hubs a	s b
1 or 2 devices	71/4	313/16	43/8	53/8	63/8	215/16	11/8	1 1/16	11/4	1 ⁵ / ₁₆
3 or 4 devices	113/4	313/16	43/8	53/8	107/8	215/16	11/8	1 ½1/16	1 1/4	15/16

*NCS box is supplied with units using ½" and ¾" hubs. NCD box is supplied with units using 1" hubs or MSR option.

‡ NCD 4 device box used with 1" hubs or MSR option.

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7BCD (Div. 2), 12 Watertight Weatherproof Dust-tight

Ordering Information - With Pilot Lights **	Ordering	Information	- With	Pilot	Lightst*
---	----------	-------------	--------	-------	----------

						Enclosure w	ith Pilot Lights	³/₄" Hubs		1" Hubs	
No. Units	Diagr	am			Volts	Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #
1					120 240 480 600	N2S1131 ① N2S1132 ① N2S1134 ① N2S1135 ①	N2SC1131 ① N2SC1132 ① N2SC1134 ① N2SC1135 ①	N2S2131 ① N2S2132 ① N2S2134 ① N2S2135 ①	N2SC2131 ① N2SC2132 ① N2SC2134 ① N2SC2135 ①	N2S3131 ① N2S3132 ① N2S3134 ① N2S3135 ①	N2SC3131 ① N2SC3132 ① N2SC3134 ① N2SC3135 ①
2		@			120 240 480 600	N2S1231 ① N2S1232 ① N2S1234 ① N2S1235 ①	N2SC1231 ① N2SC1232 ① N2SC1234 ① N2SC1235 ①	N2S2231 ① N2S2232 ① N2S2234 ① N2S2235 ①	N2SC2231 ① N2SC2232 ① N2SC2234 ① N2SC2235 ①	N2S3231 ① N2S3232 ① N2S3234 ① N2S3235 ①	N2SC3231 ① N2SC3232 ① N2SC3234 ① N2SC3235 ①
3		(a)	(a)		120 240 480 600	N2S1331 ① N2S1332 ① N2S1334 ① N2S1335 ①	N2SC1331 ① N2SC1332 ① N2SC1334 ① N2SC1335 ①	N2S2331 ① N2S2332 ① N2S2334 ① N2S2335 ①	N2SC2331 ① N2SC2332 ① N2SC2334 ① N2SC2335 ①	N2S3331 ① N2S3332 ① N2S3334 ① N2S3335 ①	N2SC3331 ① N2SC3332 ① N2SC3334 ① N2SC3335 ①
4	((((120 240 480 600	N2S1431 ① N2S1432 ① N2S1434 ① N2S1435 ①	N2SC1431 ① N2SC1432 ① N2SC1434 ① N2SC1435 ①	N2S2431 ① N2S2432 ① N2S2434 ① N2S2435 ①	N2SC2431 ① N2SC2432 ① N2SC2434 ① N2SC2435 ①	N2S3431 ① N2S3432 ① N2S3434 ① N2S3435 ①	N2SC3431 ① N2SC3432 ① N2SC3434 ① N2SC3435 ①

Ordering Information - With Selector Switches

•	Switch Position			Marking - Unless	Enclosi	Enclosure With Selector Switch			
Style	1 2 3		Otherwise Specified	Hub Size	Dead End Cat. #	Through Feed Cat. #			
Two-Position, Two-Circuit	A1 <u>e⊥e</u> A2 ● ●	* *		START-STOP (or Specify)	1/ ₂ 3/ ₄ 1	N2S1121 ② N2S2121 ② N2S3121 ②	N2SC1121 ② N2SC2121 ② N2SC3121 ②		
Two-Position, Four-Circuit	A1 818 A2 0 0 B1 818 B2 0 0	\$4 \$4 \$4		START-STOP (or Specify)	1/ ₂ 3/ ₄ 1	N2S1122 ② N2S2122 ② N2S3122 ②	N2SC1122 ② N2SC2122 ② N2SC3122 ②		
Three-Position, Two-Circuit †	Ā1 <u>eļa</u> A2 ● ●	0.0	*1*	Specify	1/ ₂ 3/ ₄ 1	N2S1123 ② N2S2123 ② N2S3123 ②	N2SC1123 ② N2SC2123 ② N2SC3123 ②		
Three-Position, Four-Circuit †	A1 818 A2 0 0 B1 818 B2 0 0	916 0 0	*** ***	Specify	1/ ₂ 3/ ₄ 1	N2S1124 ② N2S2124 ② N2S3124 ②	N2SC1124 @ N2SC2124 @ N2SC3124 @		
Three-Position, Four-Circuit †	A1 0.0 A2 0 0 B1 a1s	<u>eie</u> • •	818 • •	Specify	1/ ₂ 3/ ₄ 1	N2S1125 ② N2S2125 ② N2S3125 ②	N2SC1125 ② N2SC2125 ② N2SC3125 ②		

① Specify lens color for each pilot light. As an example, N2S1231 with one red and one green would be ordered as N2S1231-J1-J3. Color Symbol Color Symbol

Red Clear J10 Green J3 Blue J11 J6 Amber

@ If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

•			
Pushbuttons:	REVERSE	Selector Switches - Two-Position:	Selector Switches - Three-Position:
START	OPEN		
STOP	CLOSE	RUN-JOG	RUN-OFF-JOG
ON	UP	HAND-AUTO	HAND-OFF-AUTO
OFF	DOWN	FOR-REV	FOR-OFF-REV
RUN	IN	FAST-SLOW	FAST-OFF-SLOW
JOG	OUT	OPEN-CLOSE	1-OFF-2
TRIP	RAISE	UP-DOWN	OPEN-OFF-CLOSE
RESET	LOWER	ON-OFF	UP-OFF-DOWN
TEST		IN-OUT	
LIGHT ON		RAISE-LOWER	
HAND		START-STOP	
AUTOMATIC			
EMERGENCY			
EODWADD.			

[‡] Pilot lights are transformer type except those rated 120 volts. Lamp type is 120MB, 120 volts, 3 watts.

* LED pilot lights are available. Add suffix LED after last color symbol. See Options Sections for more information.

† Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.

Crouse-Hinds

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7BCD (Div. 2), 12 Watertight Weatherproof Dust-tight

Ordering Information - With Pushbuttons - Momentary Contact

				Marking Unless	Enclosu	Enclosure with Pushbuttons			
No. Units	Contact	Symbol		Otherwise Specified	Hub Size	Dead End Cat. #	Through Feed Cat. #		
1	<u>aia</u> • •			START (or Specify)	1/ ₂ 3/ ₄ 1	N2S1110 ② N2S2110 ② N2S3110 ②	N2SC1110 ② N2SC2110 ② N2SC3110 ②		
2	<u>aia</u> • •	eie • •		START-STOP (or Specify)	1/ ₂ 3/ ₄ 1	N2S1210 ② N2S2210 ② N2S3210 ②	N2SC1210 ② N2SC2210 ② N2SC3210 ②		
3	<u>aia</u> • •	<u>aia</u> • •	<u>aia</u> • •	Specify	1/ ₂ 3/ ₄ 1	N2S1310 ② N2S2310 ② N2S3310 ②	N2SC1310 ② N2SC2310 ② N2SC3310 ②		
4	ais • •	<u>ais</u> • •		Specify	1/ ₂ 3/ ₄ 1	N2S1410 ② N2S2410 ② N2S3410 ②	N2SC1410 ② N2SC2410 ② N2SC3410 ②		

Ordering Information - Combination Control Stations

Enclosure With Pushbuttons and Pilot Lights

Pilot Lights*	Pushbuttons	Diagram	Markings	Hub Size	Volts	Dead End Cat. #	Through Feed Cat. #	Volts	Dead End Cat. #	Through Feed Cat. #
1	1		Consider	1/ ₂ 3/ ₄ 1	120	N2S12411 ①② N2S22411 ①② N2S32411 ①②	N2SC12411 ①2 N2SC22411 ①2 N2SC32411 ①2	480	N2S12414 ①② N2S22414 ①② N2S32414 ①②	N2SC12414 ①② N2SC22414 ①② N2SC32414 ①②
'	1	<u>aia</u> • •	Specify	1/ ₂ 3/ ₄ 1	240	N2S12412 ①② N2S22412 ①② N2S32412 ①②	N2SC12412 ①② N2SC22412 ①② N2SC32412 ①②	600	N2S12415 ①2 N2S22415 ①2 N2S32415 ①2	N2SC12415 ①② N2SC22415 ①② N2SC32415 ①②
		6		1/2		N2S13421 ①②	N2SC13421 ①②		N2S13424 ①②	N2SC13424 ①②
				3/4	120	N2S23421 ①②	N2SC23421 ①②	480	N2S23424 ①②	N2SC23424 ①②
1	2	aia.	Specify	1		N2S33421 ①②	N2SC33421 ①②		N2S33424 ①②	N2SC33424 ①②
		• • <u>=ie</u> • •		1/ ₂ 3/ ₄ 1	240	N2S13422 ①② N2S23422 ①② N2S33422 ①②	N2SC13422 ①② N2SC23422 ①② N2SC33422 ①②	600	N2S13425 ①② N2S23425 ①② N2S33425 ①②	N2SC13425 ①2 N2SC23425 ①2 N2SC33425 ①2
		*		1/ ₂ 3/ ₄ 1	120	N2S13411 ①② N2S23411 ①② N2S33411 ①②	N2SC13411 ①② N2SC23411 ①② N2SC33411 ①②	480	N2S13414 ①② N2S23414 ①② N2S33414 ①②	N2SC13414 ①2 N2SC23414 ①2 N2SC33414 ①2
2	1	<u>aia</u> • •	Specify	1/ ₂ 3/ ₄ 1	240	N2S13412 ①2 N2S23412 ①2 N2S33412 ①2	N2SC13412 ①2 N2SC23412 ①2 N2SC33412 ①2	600	N2S13415 ①2 N2S23415 ①2 N2S33415 ①2	N2SC13415 ①2 N2SC23415 ①2 N2SC33415 ①2
		@ @		1/2		N2S14421 ①②	N2SC14421 ①②		N2S14424 ①②	N2SC14424 ①②
				3/4	120	N2S24421 ①②	N2SC24421 ①②	480	N2S24424 ①②	N2SC24424 ①②
2	2	eie.	Specify	1		N2S34421 ①②	N2SC34421 ①②		N2S34424 ①②	N2SC34424 ①②
		• • • •		1/ ₂ 3/ ₄ 1	240	N2S14422 ①② N2S24422 ①② N2S34422 ①②	N2SC14422 ①② N2SC24422 ①② N2SC34422 ①②	600	N2S14425 ①② N2S24425 ①② N2S34425 ①②	N2SC14425 ①2 N2SC24425 ①2 N2SC34425 ①2

① See pages 545-547

[©] See pages 545–547
‡ Pilot lights are transformer type except those rated 120 volts. Lamp type is 120MB, 120 volts, 3 watts.

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

CI. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7BCD (Div. 2), 12 Watertight Weatherproof Dust-tight

Ordering Information - Combination Control Stations

Selector Switches Position No.†					Enclosure With Pilot Light, Pushbuttons and Selector Switch								
Pilot Lights*:	Push butte	-	1	2	3	Markings	Hub Size	Volts	Dead End Cat. #	Through Feed Cat. #	Volts	Dead End Cat. #	Through Feed Cat. #
1	2		2-Pos,	, 2-Cc	t		1/ ₂ 3/ ₄ 1	120	N2S145211 ①② N2S245211 ①② N2S345211 ①②	N2SC145211 ①② N2SC245211 ①② N2SC345211 ①②	480	N2S145214 ①② N2S245214 ①② N2S345214 ①②	N2SC145214 ①② N2SC245214 ①② N2SC345214 ①②
	<u>aia</u> • •	<u>aia</u> • •	A1 ⊕i.e A2 ● ●	* *		Specify	1/2 3/ ₄ 1	240	N2S145212 ①② N2S245212 ①② N2S345212 ①②	N2SC145212 ①② N2SC245212 ①② N2SC345212 ①②	600	N2S145215 ①② N2S245215 ①② N2S345215 ①②	N2SC145215 ①2 N2SC245215 ①2 N2SC345215 ①2
1	2		3-Pos,	,		0	1/ ₂ 3/ ₄ 1	120	N2S145231 ①② N2S245231 ①② N2S345231 ①②	N2SC145231 ①② N2SC245231 ①② N2SC345231 ①②	480	N2S145234 ①② N2S245234 ①② N2S345234 ①②	N2SC145234 ①2 N2SC245234 ①2 N2SC345234 ①2
	<u>aia</u>	<u>#1#</u>	A1 ⊕i.e A2 ● ●	• • •••	***	Specify	1/ ₂ 3/ ₄ 1	240	N2S145232 ①② N2S245232 ①② N2S345232 ①②	N2SC145232 ①2 N2SC245232 ①2 N2SC345232 ①2	600	N2S145235 ①② N2S245235 ①② N2S345235 ①②	N2SC145235 ①② N2SC245235 ①② N2SC345235 ①②

① Specify lens color for each pilot light. As an example, N2S1231 with one red and one green would be ordered as N2S1231-J1-J3.

Color	Symbol	Color	Symbol	
Red	J1	Clear	J10	
Green	J3	Blue	J11	
Amber	.16			

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:
Marking

•			
Pushbuttons: START	REVERSE OPEN	Selector Switches – Two-Position:	Selector Switches - Three-Position:
STOP	CLOSE	RUN-JOG	RUN-OFF-JOG
ON OFF	UP DOWN	HAND-AUTO FOR-REV	HAND-OFF-AUTO FOR-OFF-REV
RUN	IN OUT	FAST-SLOW	FAST-OFF-SLOW 1-OFF-2
JOG TRIP	RAISE	OPEN-CLOSE UP-DOWN	OPEN-OFF-CLOSE
RESET	LOWER	ON-OFF	UP-OFF-DOWN
TEST LIGHT ON		IN-OUT RAISE-LOWER	
HAND		START-STOP	
AUTOMATIC EMERGENCY			
FORWARD			

Pilot lights are transformer type except those rated 120 volts. Lamp type is 120MB, 120 volts, 3 watts.
 *LED pilot lights are available. Add suffix LED after last color symbol. See Options Sections for more information.
 † Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7BCD (Div. 2), 12 Watertight Weatherproof Dust-tight

Ordering Information - Custom-Built, **Factory Assembled Control Stations**

To order your custom-built factory assembled control station, select the enclosure required and add the desired devices from listings below. Custom-built factory assembled control stations may thus be ordered as follows:

Requirements:

3-device control station on Krydon® material enclosure with 3/4" through feed hubs, with 1 pilot light with green jewel, rated at 120V; 1 three position, two circuit selector switch marked HAND-OFF-AUTO; and 1 green single circuit pushbutton marked START.

ORDER:

NCDC23FA N2P310-J3

N2SW11311-HAND-OFF-AUTO

N2PS1111G-START

Pilot light jewel symbol, pushbutton and selector switch plate markings are selected from footnote tables. Suffix FA indicates factory

Note that order of assembly of control stations should be listed in desired mounting order, reading from top to bottom of enclosure.

Enclosures (NCD or NCDC enclosures must be used with MSR1 or MSR2)

No. of Devices	Without Hubs Cat. #	With One Hub ½" Cat. #	With Two Hub ½" Cat. #	With One Hub ¾" Cat. #	With Two Hub ³ / ₄ " Cat. #	With One Hub 1" Cat. #	With Two Hub 1" Cat. #
1	NCD01	NCD11	NCDC11	NCD21	NCDC21	NCD31	NCDC31
2	NCD02	NCD12	NCDC12	NCD22	NCDC22	NCD32	NCDC32
3	NCD03	NCD13	NCDC13	NCD23	NCDC23	NCD33	NCDC33
4	NCD04	NCD14	NCDC14	NCD24	NCDC24	NCD34	NCDC34
No. of Devices	Without Hubs Cat. #	With One Hub (³ / ₄ ") Cat. #	With Two Hub (¾") Cat. #	With One Hub (½") Cat. #	With Two Hub (½") Cat. #		
1	NCS01	NCS21	NCSC21	NCS11	NCSC11		
2	NCS02	NCS22	NCSC22	NCS12	NCSC12		
3	NCS03	NCS23	NCSC23	NCS13	NCSC13		
1	NCS04	NCS24	NCSC24	NCS14	NCSC14		

Pilot Lights ** **Transformer Type**

Volts	Cat. #
120	N2PL10 ①
240	N2PL20 ①
480	N2PL40 ①
600	N2PL50 ①



Pilot lights to be used in N2SU Series:

Red	N2PLU10 J1 LED
Green	N2PLU10 J3 LED
Amber	N2PLU10 J6 LED
Clear	N2PLU10 J10 LED
Blue	N2PLU10 J11 LED

① Specify lens color for each pilot light using symbols below.

Color	Symbol	Color	Symbol	
Red	J1	Clear	J10	
Green	J3	Blue	J11	
Amber	J6			

[‡] Pilot lights are transformer type except those rated 120 volts. Lamp type is 120MB, 120 volts, 3 watts.

* LED pilot lights are available. Add suffix LED after last color symbol. See Options Sections for more information.

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

CI. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7BCD (Div. 2), 12 Watertight Weatherproof Dust-tight

Pushbutton Stations - Momentary Contact

	1 Circuit		2 Circuit	
Color of Operator	Contact Symbol	Universal Cat. #	Contact Symbol	Universal Cat. #
Natural	<u>aia</u> • •	N2PS1111 @	ein ain	N2PS1211 ②
Red	<u>aia</u> • •	N2PS1111R @	eia aia	N2PS1211R ②
Green	<u>aia</u> • •	N2PS1111G @	eia aia	N2PS1211G ②
Red Mushroom Head	eie • •	N2PM1111 S111 @		





Description	Cat. #
Closure Plug	NP2

Selector Switches

		_		
Style	Position 1	Position 2	Position 3	Cat. #
Two Position Two Circuit	A1 ala A2 • •	* *		N2SW11211 ②
Two Position Four Circuit	A1 aia A2 • • B1 aia B2 • •	\$-\$ \$-\$		N2SW12221 ②
Three Position Two Circuit †	A1 <u>ala</u> A2 • •	• • •1•	*1*	N2SW11311 @
Three Position Four Circuit †	A1 e1e A2 • • B1 e1e B2 • •	9 0 910 910	\$4 \$4	N2SW12321 ②
Three Position Four Circuit †	A1 • • • A2 • • • B1 ala B2 • •	eie • • eie	616 6 6	N2SW12322 ②



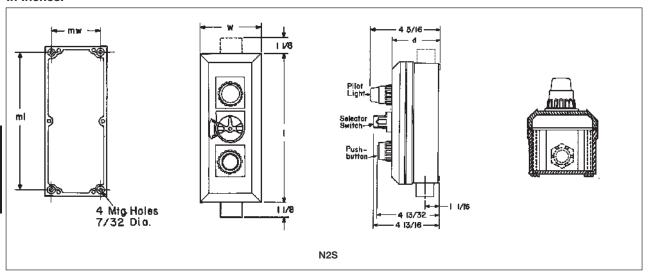
② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Marking			
Pushbuttons: START STOP ON OFF RUN JOG TRIP RESET TEST LIGHT ON HAND AUTOMATIC EMERGENCY FORWARD	REVERSE OPEN CLOSE UP DOWN IN OUT RAISE LOWER	Selector Switches – Two-Positions: RUN-JOG HAND-AUTO FOR-REV FAST-SLOW OPEN-CLOSE UP-DOWN ON-OFF IN-OUT RAISE-LOWER START-STOP	Selector Switches – Three-Position: RUN-OFF-JOG HAND-OFF-AUTO FOR-OFF-REV FAST-OFF-SLOW 1-OFF-2 OPEN-OFF-CLOSE UP-OFF-DOWN

[†] Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty Cl. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7BCD (Div. 2), 12 Watertight Weatherproof Dust-tight

Dimensions In Inches:



For 1/2" and 3/4" hub sizes (for 1" hub and/or MSR option, see page 544).

	Out	side Dim	Mounting Dimensions		
NCS(C) Body Style	I	w	d	ml	mw
1 device	71/4	313/16	43/8	63/8	215/16
2 devices	71/4	313/16	43/8	6³/ ₈	215/16
3 devices	91/2	313/16	43/8	85/8	215/16
4 devices	113/4	313/16	43/8	107/8	215/16

N2SU/N2SCU **Control Stations**

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D Corrosion-Resistant **Dust-tight** Watertight Weatherproof NEMA 3, 4X, 7BCD (Div. 2), 12 Cl. II, Div. 2, Groups F, G Cl. I, Zones 1 and 2, Ex de IIB + H₂

Applications:

N2SU and N2SCU pushbutton stations, selector switches and pilot lights are suitable for use:

- In Class I, Groups B, C, D; Division 2 and Class I, Zones 1 and 2 hazardous areas where flammable vapors or gases may be present due to accidental or abnormal operation
- In damp, wet, or corrosive locations
- Indoors or outdoors in Division 2 and Class I. Zones 1 and 2 areas of petroleum refineries, chemical plants and other process industry facilities where similar hazards exist

N2SU and N2SCU pushbutton stations and selector switches are used:

• In conjunction with magnetic starters or contactors for remote control of motors

N2SU and N2SCU pilot lights are used:

• To visually indicate at a remote location that the desired function is being

Optional maintained stop pushbutton(s) are used: As emergency or normal stop button(s) in motor control circuits for positive shutdown.

Features:

- Compact, strong, durable enclosures are made of Vestamid™ - a black molded high impact strength, polyester material having excellent corrosion resistance and stability to heat.
- Exterior parts of pushbuttons, pilot lights, and selector switches are made of Krydon material. See pages 552-553 for device part numbers
- Pushbutton design uses a unique internal neoprene boot which completely encloses all internal parts. A wiping gasket around the pushbutton cleans the wall of the pushbutton guard of any foreign material accumulation as the button is operated.
- Formed-in-place gasket, and stainless steel screws for added corrosion resistance.
- Pushbutton and pilot light guards are fluted for no-slip installation.
- · Factory installed dead end (N2SU) or through feed (N2SCU) hubs -1/2" and 3/4" sizes.
- · Legend plates are available with 40 standard markings.
- · Lockout is standard on selector switch devices
- · LED lamps are standard to provide longer life.

Certifications and Compliances:

- NEMA: 3, 4X, 7BCD and 12
- UL Standard: 508
- CSA C22.2 No. 14 & 30

Size Ranges:

• 1, 2, 3 and 4-device units

Electrical Rating Ranges:

- Pushbutton stations and selector switches - heavy duty 600VAC maximum
- Pilot lights 120 to 600 VAC

Options:

Description Padlock attachments for all pushbuttons. For "START-STOP" stations, only "STOP" button provided with lockout (lockout standard with STOP)..... Three-position selector switches with modified operation:

Momentary contact clockwise operation, spring return to center, maintained contact

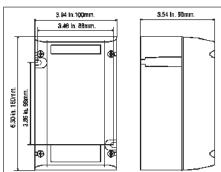
counterclockwise operation..... Momentary contact counterclockwise operation, spring return to center, maintained

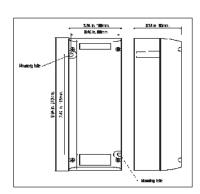
contact clockwise operation.....

In addition to hub arrangements shown, the following can be obtained by inserting these codes for the 4th and 5th character in the catalog number: D = Double ½" hubs at bottom

CD = Single hub at top, double 1/2" hubs at bottom DD = Double 1/2" hubs at each end

Dimensions In Inches:

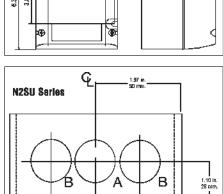




Suffix

S708

S634 6



Entry	Note
A	.87 in. 22 mm. diameter for 1/2" single entry 1.09 in. 28 mm. diameter for 3/4' single entry
В	.87 in, 22 mm, diameter for 1/2" double entry



4C N2SU/N2SCU Control Stations

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty Cl. I, Div. 2, Groups B, C, D Corrosion-Resistant Dust-tight

Watertight
Weatherproof

NEMA 3, 4X, 7BCD (Div. 2), 12

Cl. II, Div. 2, Groups F, G Cl. I, Zones 1 and 2, Ex de IIB + H_2 IP66

Ordering Information - With Pushbuttons - Momentary Contact

					Marking Unless	Enclo	sure with Push	buttons
No. Units	Cont	act Sy	mbol		Otherwise Specified	Hub Size	Dead End Cat. #	Through Feed Cat. #
1	<u>aia</u>				START (or Specify)	1/ ₂ 3/ ₄	N2S1110U ② N2S2110U ②	N2SC1110U ② N2SC2110U ②
2	-ia - +	<u>aia</u> • •			START-STOP (or Specify)	1/ ₂ 3/ ₄	N2S1210U ② N2S2210U ②	N2SC1210U ② N2SC2210U ②
3	<u>=ia</u>	<u>aia</u>	<u>aia</u>		Specify	1/ ₂ 3/ ₄	N2S1310U ② N2S2310U ②	N2SC1310U ② N2SC2310U ②
4	<u>aia</u>	<u>aia</u>	<u>aia</u> • •	<u>aia</u>	Specify	1/ ₂ 3/ ₄	N2S1410U ② N2S2410U ②	N2SC1410U ② N2SC2410U ②



Maintained pushbutton with pilot light control station

Ordering Information - With Selector Switches*

		Position		Marking Unless		Enclosure with One Selector Switch		
Style	1	2	3	Otherwise Specified	Hub Size	Dead End Cat. #	Through Feed Cat. #	
Two-Position, Two-Circuit	A1 <u>+1.e.</u> A2 ◆ ●	*1*		START-STOP (or Specify)	1/ ₂ 3/ ₄	N2S1121U ② N2S2121U ②	N2SC1121U ② N2SC2121U ②	
Two-Position, Four-Circuit	A1 818 A2 * * B1 818 B2 * *	0 0 0 0 0 0		START-STOP (or Specify)	1/ ₂ 3/ ₄	N2S1122U ② N2S2122U ②	N2SC1122U ② N2SC2122U ②	
Three-Position, Two-Circuit	A1 ÷ie A2 ◆ ◆	0,0	*1*	Specify	1/ ₂ 3/ ₄	N2S1123U ② N2S2123U ②	N2SC1123U ② N2SC2123U ②	
Three-Position, Four-Circuit	A1 ela A2 * * B1 ela B2 * *	910 910	*1* *1*	Specify	1/ ₂ 3/ ₄	N2S1124U ② N2S2124U ②	N2SC1124U ② N2SC2124U ②	
Three-Position, Four-Circuit	A1 • a A2 • • B1 • a1e	eie • •	616 0 0 0,0	Specify	1/ ₂ 3/ ₄	N2S1125U ② N2S2125U ②	N2SC1125U ② N2SC2125U ②	

@ If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

REVERSE	Selector Switches -	Selector Switches -
OPEN	Two-Position:	Three-Position
CLOSE	RUN-JOG	RUN-OFF-JOG
UP	HAND-AUTO	HAND-OFF-AUTO
DOWN	FOR-REV	FOR-OFF-REV
IN	FAST-SLOW	FAST-OFF-SLOW
OUT	OPEN-CLOSE	1-OFF-2
RAISE	UP-DOWN	OPEN-OFF-CLOSE
LOWER	ON-OFF	UP-OFF-DOWN
	IN-OUT	
	RAISE-LOWER	
	START-STOP	
	OPEN CLOSE UP DOWN IN OUT RAISE	OPEN Two-Position: CLOSE RUN-JOG UP HAND-AUTO DOWN FOR-REV IN FAST-SLOW OUT OPEN-CLOSE RAISE UP-DOWN LOWER ON-OFF IN-OUT RAISE-LOWER

N2SU/N2SCU Control Stations

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty

CI. I, Div. 2, Groups B, C, D Corrosion-Resistant Dust-tight

Watertight
Weatherproof

NEMA 3, 4X, 7BCD (Div. 2), 12

Cl. II, Div. 2, Groups F, G Cl. I, Zones 1 and 2, Ex de IIB + H_2

Ordering Information - With Pilot Lights - Transformer Type

Enclosure	with	Pilot	Lights†
-----------	------	--------------	---------

						1/2" Hubs		³/₄" Hubs	
No. Units	Diagram		Volts	Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #		
	@				120	N2S1131U ①	N2SC1131U ①	N2S2131U ①	N2SC2131U ①
1	٩				240	N2S1132U ①	N2SC1132U ①	N2S2132U ①	N2SC2132U ①
_	@	((()			120	N2S1231U ①	N2SC1231U ①	N2S2231U ①	N2SC2231U ①
2					240	N2S1232U ①	N2SC1232U ①	N2S2232U ①	N2SC2232U ①
_	@	6	(Q)		120	N2S1331U ①	N2SC1331U ①	N2S2331U ①	N2SC2331U ①
3					240	N2S1332U ①	N2SC1332U ①	N2S2332U ①	N2SC2332U ①
4	(a)	@	(a)	(a)	120	N2S1431U ①	N2SC1431U ①	N2S2431U ①	N2SC2431U ①
4	484	484	4.54	1	240	N2S1432U ①	N2SC1432U ①	N2S2432U ①	N2SC2432U ①

① Specify lens color for each pilot light. As an example, N2S1231U with one red and one green would be ordered as N2S1231U-J1-J3

Color	Symbol	Color	Symbol	-
Red Green Amber	J1 J3 J6	Clear Blue	J10 J11	

†Pilot lights are transformer type except those rated 120 volts.

4C N2SU/N2SCU Control Stations

Factory Sealed, Corrosion-Resistant 600VAC Heavy Duty Cl. I, Div. 2, Groups B, C, D Corrosion-Resistant Dust-tight Watertight Weatherproof Cl. II, Div. 2, Groups F, G Cl. I, Zones 1 and 2, Ex de IIB + H_2 IP66

600VAC Heavy Duty NEMA 3, 4X, 7BCD (Div. 2), 12

Ordering Information - Combination Control Stations†* Enclosure with Push Buttons and Pilot Lights† Marking ½" Hubs 3/4" Hubs Unless Pilot Otherwise Dead End Through Feed Dead End Through Feed Diagram Specified **Pushbuttons** Volts Lights* Cat. # Cat. # Cat. # Cat. # 120 N2S12411U 102 N2SC12411U 102 N2S22411U 102 N2SC22411U 102 **@** N2S12412U 102 N2SC12412U 102 N2S22412U 102 N2SC22412U 102 240 1 1 Specify **@** 120 N2S13421U 102 N2SC13421U 102 N2S23421U ① N2SC23421U 102 240 N2S13422U 102 N2SC13422U 102 N2S23422U ① N2SC23422U 102 START-2 STOP (or Specify) فلم 120 N2S13411U 102 N2SC13411U 102 N2S23411U 102 N2SC23411U 102 240 N2S13412U 102 N2SC13412U 102 N2S23412U 102 N2SC23412U ①2 2 Specify 1 120 N2S14421U 102 N2SC14421U 102 N2S24421U 102 N2SC24421U 102 240 N2S14422U 102 N2SC14422U 102 N2S24422U 102 N2SC24422U 112 START-2 2 فلم **STOP** (or Specify) Selector Switches **Enclosure With Pilot Light, Pushbuttons and Selector** Position No. Switch Pilot Hub Dead End Through Feed Size in. Lights' **Pushbuttons** Markings Volts Cat. # Cat. # Two-Position, Two-Circuit N2S145211U 102 N2SC145211U 102 120 3/4 N2S245211U ①2 N2SC245211U 102 Specify 1/2 N2S145212U 102 N2SC145212U 102 <u>A2</u> ♦ ● 240 N2S245212U 102 N2SC245212U 102 $\frac{3}{4}$ 2 Three-Position, Two-Circuit $^{1}/_{2}$ N2S145231U 102 N2SC145231U ①2 120 $\frac{3}{4}$ N2S245231U 102 N2SC245231U 102 Specify Al ale 1/2 N2S145232U 102 N2SC145232U 102 A2 • • 240 N2S245232U ①2 N2SC245232U 102

① Specify lens color for each pilot light. As an example, N2S1231U with one red and one green would be ordered as N2S1231U-J1-J3

Color	Symbol	Color	Symbol	
Red	J1	Clear	J10	
Green	J3	Blue	J11	
Amber	J6			

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

mariting			
Push Buttons	:	Selector Switches -	Selector Switches -
		Two-Position:	Three-Position:
START	FORWARD	RUN-JOG	RUN-OFF-JOG
STOP	REVERSE	HAND-AUTO	HAND-OFF-AUTO
ON	OPEN	FOR-REV	FOR-OFF-REV
OFF	CLOSE	FAST-SLOW	FAST-OFF-SLOW
RUN	UP	OPEN-CLOSE	1-OFF-2
JOG	DOWN	UP-DOWN	OPEN-OFF-CLOSE
TRIP	IN	ON-OFF	UP-OFF-DOWN
RESET	OUT	IN-OUT	
TEST	RAISE	RAISE-LOWER	
LIGHT ON	LOWER	START-STOP	
HAND			
AUTOMATIC			
EMERGENCY	,		

^{*}Replacement switch for selector switches is Cat. No. ESWP126. †Pilot lights are transformer type except those rated 120 volts.

Factory Sealed, Corrosion-Resistant

Applications:

N2FA and N2FAC fire alarm stations are used:

- · As break-glass fire alarm stations
- In conjunction with audible and/or visible signaling devices to alert personnel of a fire hazard
- In Class I, Division 2, Groups B, C, D hazardous areas where flammable vapors or gases may be present due to an accident or abnormal operation
- In damp, wet or corrosive locations
- Indoors or outdoors in Division 2 areas of petroleum refineries, chemical plants and other process industry facilities where similar hazards exist

Features:

- Factory sealed. External seals are not required.
- Enclosures are made of Krydon® fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat and sunlight.
- Highly visible molded-in red color for quick identification.
- Break-glass rod is attached to station with a chain for ready access during an emergency.
- Factory installed dead end (N2FA) or through feed (N2FAC) hubs - 1/2", 3/4" and 1" sizes.

Certifications and Compliances:

• NEC:

Class I, Division 2, Groups B, C, D

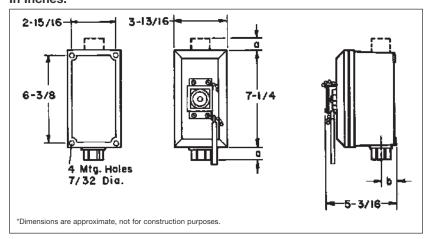
• NEMA 3, 7BCD (Division 2), 12



Ordering Information

Hub Size	Dead End Cat. #	Through Feed Cat. #	Replacement Glass Cat. #
1/2	N2FA11	N2FAC11	DS K14
3/4	N2FA21	N2FAC21	DS K14
1	N2FA31	N2FAC31	DS K14

Dimensions* In Inches:



1/2" & 3/4" Hubs		1" Hubs		
а	b	а	b	
11/8	11/16	11/4	1 5/ ₁₆	

4C GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant

UL/cUL listed CI. I, Div. 2, Groups A, B, C, D CI. I, Zones 1 and 2, (A) Ex de IIB + H_2 T6 CI. II, Div. 1, Groups E, F, G (cUL)

PTB ATEX CERTIFIED 3117 Ex de IIC, T6, Zones 1 and 2 Ex de IIC,T6 Zones 21 and 22 IP 66, NEMA 4X

Applications:

Control stations are used as a remote means of:

- Motor control
- Visual indication of equipment performance
- On-off control of circuits
- Circuit selection

Common applications include:

- Areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist



- NEMA 4X, IP66 enclosure with formedin-place gasket
- Available with all operators: indicator lights, potentiometers, control switches, pushbuttons, terminal blocks and meters
- · Base-mounted contact blocks
- Easy change-out components snap in place on DIN rail
- Enclosure meets UL 94-VO. Also available in anti-static Ex e materials
- Inserts for mounting DIN rails
- Available with a maximum of 2 entries top and bottom for conduit fittings or cable glands
- Suitable for universal mounting plates on pipes, conduit, wall or channels
- Mounting dimensions data molded on back
- Captive, corrosion-resistant cover screws
- Built-in mounting slots for wall installation
- Available in 316L stainless steel

Certifications and Compliances:

- UL/cUL Listed
- Class I, Div. 2, Groups A, B, C, D
- Class II, Div. 1, Groups E, F, G (cUL)
- Class I, Zones 1 and 2, Ex de IIB + H2, T6
- AEx de IIB + H2, T6
- Type 3, 4, 4X; IP66
- CENELEC-PTB 00 ATEX 3117
- Ex de IIC, T6, Zones 1 and 2, IP66

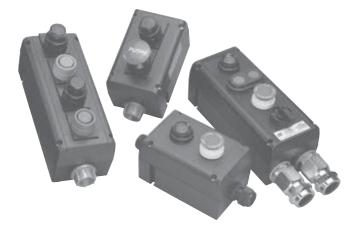
Options:

Description

Suffix

Eaton's Crouse-Hinds GHG43 Series control stations are now available with 316L stainless steel enclosures, making them ideal for corrosive and adverse locations especially offshore platform applications

S860



GHG43 Nonmetallic Control Stations

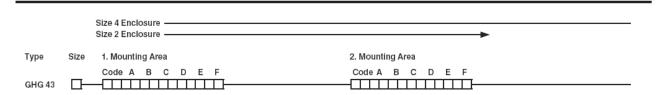


GHG43 Stainless Steel Control Stations

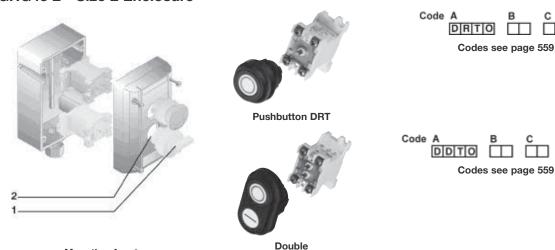


GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant



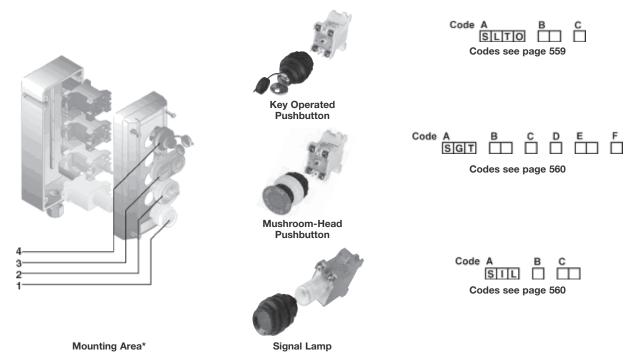
GHG43 2 - Size 2 Enclosure



Pushbutton

GHG43 4 - Size 4 Enclosure

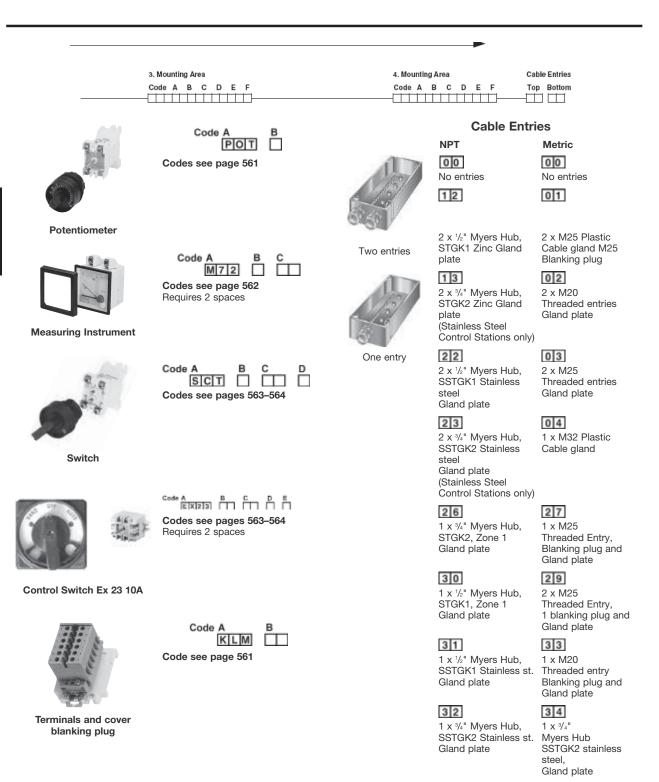
Mounting Area*



‡For a GHG43 control station with 316L stainless steel enclosure, add suffix "S860" to end of catalog number. *Unoccupied spaces must be filled in with KLM for correct positioning of devices.

GHG43 Series Control Stations How to build a GHG43 Series Catalog Number‡

Nonmetallic or 316L Stainless Steel Corrosion Resistant



GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Pushbuttons:

- · Used for logic controls in hazardous areas
- Single or double units
- Used with all operators
- Base mounting



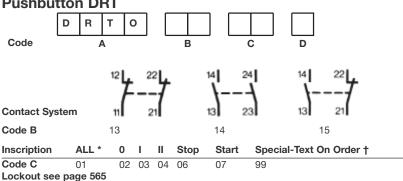




Pushbutton Ex de IIC T6 PTB No. Ex-87.B.1007U PTB, UL, cUL Up to 400V NEC/CEC 10A IEC 16 A 2 x 2.5mm² / 14AWG >10⁵ Operations

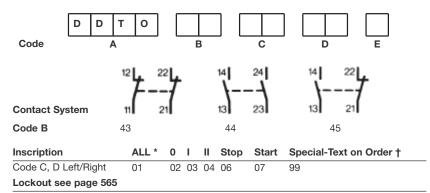
See page 564 for explanation of contact symbols.

Pushbutton DRT



Code D (leave blank if no lockout required)

Double Pushbutton DDTO



Code E (leave blank if no lockout required)

Key-Operated Pushbutton SIT

Codo C								4	0	2	4	E	6
Depressed				kable Ren	e novat	ole		Yes No	No No	Yes Yes	Yes Yes	Auto Yes	Yes Yes
Not Depressed	d			kable Ren	e novat	ole		Yes Yes	Yes Yes	Yes No	No No	No Yes	Yes Yes
Pushbutton			Key										
Code B			23				2	24			25		
Contact Syste	em		12	t_	22	-	14		41	14	22	7	
Code		-	A			В		С					
5	S	L	Т	0]]				
Key-Ope	ra	ted	Pu	sh	but	ton	SLT						

 ^{* 01 -} Includes the following discs - Start, stop, I, O, and red, green, yellow, white and black blank discs.
 † For Marking Guide for Pushbuttons see page 565.

Nonmetallic or 316L Stainless Steel

GHG43 Series Control Stations

Corrosion Resistant



Mushroom-Head Pushbutton SGT

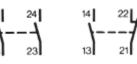
53

Code

Contact System

Code B





Color of Pushbutton	Red	Yellow	Black Actuator
Code C	1	2	3
Function	Spring Return	Maintained	Key Release
Code D	1	2	3
Inscription	Stop	Start	Black Actuator
Code E	06	07	11
Lookout			

Lockout see page 565

Code F (leave blank if no lockout required)

Signal Lamp

- Used for positive feedback indication
- High intensity with special reflector and optical lens
- Accomodates most input voltages
- Base mounting



Lamp

Type of Protection Certificate of Conformity Approvals Lamp Life

Rated Voltages Rated Current Power Consumption

Terminal Wiring Colors

Ex de IIC T6 EX GB IIL 16
PTB No. Ex-88.B.2106U
PTB, UL, cUL
>100,000 Hours (11.5 Years)
Up to 240VAC, 50 / 60 Hz
Up to 110VDC
May 15 mA Max. 15 mA <1.2W 2 x 2.5mm² / 14AWG Red, Green, Yellow, Clear & Blue

Signal	Lan	np S	SIL		
	S	I	L		
Code		Α		В	C

Colored				1 pkg white, yellow, re	ed,	
Lens Cover	White	Yellow	Red	green	Green	Blue
Code B	1	2	3	4	5	6
Voltage		20-25	OVAC/DC	1	10-33VAC/DC	;
Code C		01			R1	

GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Terminal Blocks

- Terminal block for easy field connections
- Base mounting



Terminal Blocks Ex e II

Type of Protection

Certificate of Conformity PTB No. Ex-88.B.3112U Rated Voltages Up to 400V

Rated Current 23A 4mm² / 12AWG **Conductor Size**

Terminals and Cover Plugs KLM

Code

K М В

Undrilled Cover (No Terminals) 6 Terminals 2 x 4 mm² Code B

Potentiometers

- Used to adjust resistance to vary motor speed or light levels
- Scale 0 to 100%
- Base mounting



Potentiometers

Type of Protection Ex de IIC T6 PTB No. Ex-87.B.1007U **Certificate of Conformity Approvals** PTB, UL, cUL Rated Voltages >250V Power Consumption 1.0W

Resistance 100-10,000W Angle of Rotation 270° 0-100% Scale

Connection Terminals 2 x 2.5mm² / 14AWG

Potentiometer POT

Code

Power Consumption	1W				
Resistance W	1,000	2,200	4,700	10,000	
Code B	4	7	5	6	

Nonmetallic or 316L Stainless Steel Corrosion Resistant

GHG43 Series Control Stations

Ammeters

- Used to measure motor current draw for efficiencies and maintenance
- · Slide in scales to accommodate any amperage range
- Red indicator for quick visual indication to compare set points and actual values



Ammeters Type of Protection Ex e II T6 **Certificate of Conformity** PTB No. Ex-87.B.2016U **Approvals** PTB, UL, cUL Movement Moving iron (core) Accuracy 2.5% of range (class 2.5) **Measuring Range** 0-16A direct, C.T. n/1 A **Operating Position** Scale Interchangeable for C.T. n/1 A **Zero Adjustment** At instrument **Terminal Wiring** 2 x 2.5 mm² / 14 AWG **Rated Current Marking** Red indicator

Ammeter Measuring Instrument AM 72*

	М	7	2			
Code		Α		В	С	

Movement	Direct	n/1 A	0 - 2 mA	4-20 mA
Code B	1	2	3	6

Movements 0-20 mA and 4-20 mA are only available with 0 - 100 / 120% scale

Direct Measurement		Interchang	geable Scale for C.T	: n/1A			
Code C	Scale	Code C	Scale	Code C	Scale	Code C	Scale
02	0 -1/1.5A	02	0 -1/1.5A	09	0 - 30/45A	16	0 - 200/300A
03	0 - 2.5/3.75A	03	0 - 2.5/3.75A	10	0 - 40/60A	17	0 - 250/375A
04	0 -5/7.5A	04	0 -5/7.5A	11	0 - 50/75A	18	0 - 300/450A
05	0 - 10/15A	05	0 - 10/15A	12	0 - 60/90A	19	0 - 400/600A
07	0 - 16/24A	06	0 -15/22.5A	13	0 -75/112.5A	20	0 - 500/750A
		08	0 - 20/30A	14	0 - 100/150A	21	0 - 600/900A
				15	0 - 150/225A	22	0 - 100/150A

^{*} Requires 2 spaces.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Rotary Control Switches

- Used for selectable operations (i.e. Hand-Off-Auto)
- 2 independent contacts
- Available in any contact configuration
- Spring return or maintained position
- Available with lockout positions



	SCT	Ex 23
Type of Protection	Ex de IIC T6	Ex de IIC T6
Certificate of Conformity	Ex.87.B.1007U	PTB no. Ex-88.B.1047U
Approvals	PTB, UL, cUL	PTB, UL, cUL
Rated Votage	400 V	Up to 500 V
Rated Current	NEC 10 A	NEC 10 A
	IEC 16 A	IEC 16 A
Terminal Wiring	2 x 2.5mm ² / 14 AWG	2 x 2.5mm ² / 14 AWG
Mechanical Life	>10⁵ Operations	>10 ⁵ Operations
Electrical Life	>10 ⁵ Operations	>10⁵ Operations
Switching Capacity	AC II: 20V/6A	AC I: 500G/10A
	400V/4A	AC II: 230V/6A
	DC II: 24V/6A	500V/6A
	60V/0.8A	DC II: 24V/6A
	110V/.5A	48V/4A
	220V/.2A	60V/0.8A
		110V/0.5A
		220V/0.4A

Rotary Switches

Technical Data

Rotary Control Switch SCT





Switch Mechanism

Code B Code C	Inscription	ı	Code C	Inscription		
01	0	I	07	I	0	II
03	STOP	START	13	LOCAL	REMOTE	AUTO
04	HAND	AUTO	14	STOP	0	START
06	REMOTE	LOCAL	15	HAND	0	AUTO
29	OFF	ON	99	Special - te	xt to be given o	n order

Same as SCT above except up to 4 independent contacts





Contact System	22 14	22 54	14 24	14 24	14 34	11 12 12
Code D	1	2	3	4	5	6

Rotary Control Switch Ex 23*

_										
	E	х	2	3						
Code		-	4		-	В	С	D	E	

Code B	Inscription		
01	0	1	_
03	STOP	START	
04	HAND	AUTO	
06	remote	local	
07	I	0	
13	LOCAL	REMOTE	AUTO
14	STOP	0	START
23	OFF	0	ON
24	HAND	OFF	AUTO
27	START	STOP	
29	OFF	ON	
32	ON	OFF	
99	Special - text to be given on	order	

^{*} Requires 2 spaces in cover.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Code C	Contact System	Туре	Code C	Contact Syste	m	Туре
00	J	2 Position	09	F-+	3 3	3 Position
01	F-+	2 Position	10	F+++	1 1921 1	3 Position
02	F-1-1-2 4	2 Position	12	F	44.1.16	3 Position
03	F	Single Pole Changeover	13	J	4 6 3 5	2 Position
05	F-+++	НОА	14	F- -	4 6 8	2 Position
07	F	3 Position Single Level	15	F	4 61 ,81 	3 Position Double Pole Changeover
Switched I Code D	Mechanism	45° 45° 1 145° 45° 1	90°, 45° 45° 7	8		
Padlocking Code E	g Facility	0 6) •) •		
Contac	t Configurations		I			
Normally C	Closed	2 1		1 2	Normally O	pen
Normally C 2 Positions	Closed Extended Over	2k i		\[\frac{1}{12} \]	Normally O Break	pen Early Make/Late
Change-Ov	ver Break Before Make	2 4	2	14	Change-Ov	rer Make Before Break

Example of Switch Type 10

This example is the switch type 10 Stop-Run-Stop. The switch has 3 positions - the normal position is center and can be switched left or right. An arrow $(\rightarrow \leftarrow)$ indicates spring return. (See codes for switch mechanism). Contacts 1–2 only close in the Stop position. Contacts 3–4 close only in the Start position. Contacts 5–6 are normally closed and remain closed when switched to the Start position and open when switched to the Stop position.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Lockouts for DRTO Pushbuttons



X
Code D
Shroud Cover For
Pushbutton
Y-Lockout with bolt and chain



Z Code DPadlocking Fire Alarm
Cover For Pushbutton

Lockouts for DDTO Double Pushbuttons



Code ED
Padlocking Cover For
Double Pushbutton
Without Hole



Z Code E Padlocking Cover For Double Pushbutton With Hole

Lockouts for SGT Mushroom-Head Pushbuttons



X Code F Padlocking Cover For Emergency Stop Pushbutton



Z
Code F
Padlocking Cover For
Emergency Stop Pushbutton
With Bolt & Chain
Not permitted in IEC hazardous
locations.

Marking Guide For Pushbuttons

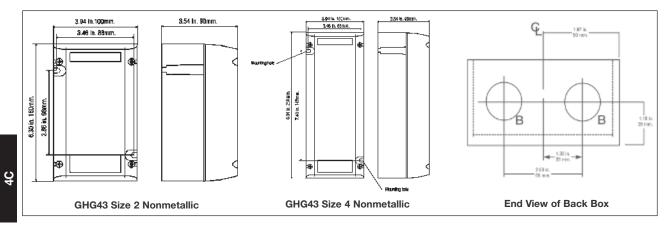
Special Text

Marking Required	Standard Abbreviation	Actual Marking on Disc
Acknowledge	AK	ACK
Alarm	AM	ALARM
Automatic	AU	AUTO
Close	CL	CLOSE
Down	DN	DOWN
Fast	FS	FAST
Forward	FW	FWD
Hand	HN	HAND
High	HI	HIGH
In	IN	IN
Jog	JG	JOG
Local	LC	LOCAL
Lower	LO	LOWER
Maintain	MT	MAINT
Manual	MN	MANUAL
Normal	NR	NORMAL
Off	OF	OFF
On Open Out Raise Remote Reset	ON OP OT RA RM RS	ON OPEN OUT RAISE REMOTE RESET
Reverse	RV	REV
Run	RN	RUN
Slow	SL	SLOW
Test	TT	TEST
Trip	TP	TRIP
Up	UP	UP

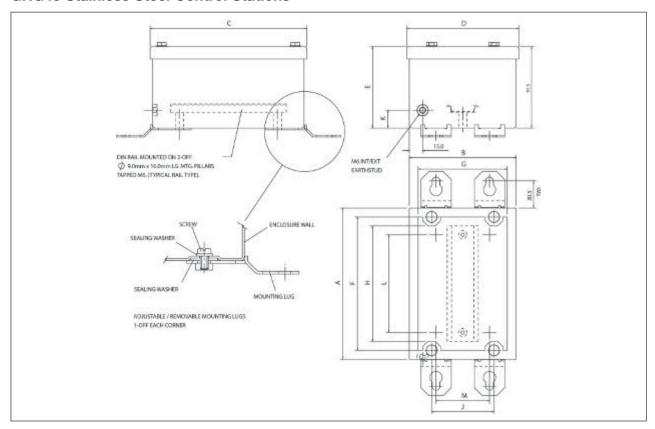
4C GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant

GHG43 Nonmetallic Control Stations



GHG43 Stainless Steel Control Stations



Box Type						Dimens	ion (inche	es)				
	Α	В	С	D	Е	F	G	Н	J	K	L	М
1 Operator Control Station	4.72	4.72	4.96	4.96	3.60	3.94	3.94	3.15	2.76	0.79	2.36	2.36
2 Operator Control Station	6.69	4.72	6.93	4.96	3.60	5.90	3.94	5.12	2.76	0.79	4.33	2.36
3 Operator Control Station	8.66	4.72	8.90	4.96	3.60	7.87	3.94	7.09	2.76	0.79	6.30	2.36
4 Operator Control Station	10.63	4.72	10.87	4.96	3.60	9.84	3.94	9.06	2.76	0.79	8.27	2.36

Crouse-Hinds

4C

OAC Series Pushbutton Stations and Heavy Duty Selector Switches

600 VAC Standard Factory Sealed†

Cl. I, Div. 1 & 2, Groups A, B, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

NEMA 3, 4, 7ABCD, 9EFG, 12

Dust-Ignitionproof Raintight Wet Locations Watertight

4C

Applications:

OAC Units are used:

- In areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- In areas which are hazardous due to the presence of acetylene and hydrogen, or gases or vapors of equivalent hazard such as manufactured gas
- In conjunction with magnetic starters or contactors for remote control of motors

Features:

- Water-shedding construction with female threaded bottom opening and male threaded cover
- Threaded cover is deep dome type, which surrounds the enclosed device
- · All enclosures are suitable for hazardous
- Pushbutton stations have a guarded rocker type operating handle at the front arranged for padlocking to prevent unauthorized operation
- · Selector switches have a lever type operating handle at the top
- Provided with vertical through feed conduit hubs of sizes indicated in the listings
- Units are factory sealed for Cl. I, Div. 1 and 2, Groups B, C, D
- · Standard lockout on selector switches. Locks two or three-position switch handle in any position.

Standard Materials:

- Bodies Feraloy® iron alloy
- · Covers and operating handle copper-free aluminum
- Operating shafts stainless steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Stainless steel natural

Certifications and Compliances:

NFC/CFC

Class I, Division 1 & 2, Groups A, B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 7ABCD, 9EFG, 12
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

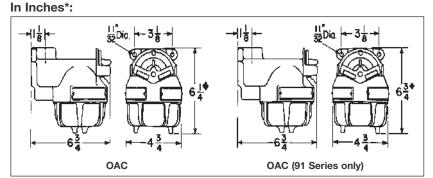
Electrical Rating Ranges:

• Pushbutton stations, and selector switches - Air Break - heavy duty 600VAC maximum

Options:

The following special options are available from factory by adding suffix to Cat. #: Description Suffix Back boss drilled and tapped for 3/4" and 1" sizes..... Specify Three-position selector switches with modified operation: Momentary contact clockwise operation, spring return to center, maintained contact counter-clockwise operation..... S634 Momentary contact counter-clockwise operation, spring return to center, maintained contact clockwise operation..... S635

Dimensions



†Factory sealed for Class I, Div. 1 & 2, Groups B, C, D.

*Dimensions are approximate, not for construction purposes. For cover removal, add 21/2" to dimension.

3/4

OAC Series Pushbutton Stations 4C and Heavy Duty Selector Switches

600 VAC Standard Factory Sealed†

Cl. I, Div. 1 & 2, Groups A, B, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7ABCD, 9EFG, 12

Dust-Ignitionproof Raintight Wet Locations Watertight





Ordering Information - Pushbutton Stations

Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits Universal	2 Circuits
Oper. Handles	Single	Double	Single Operating Both Buttons	Double
Replacement Pushbuttons	ED21	ED22	ED22	ED22*
Diagram	<u>eie</u> • •	ein min	ein min	ALE ALE
Hub Size	Cat. #	Cat. #	Cat. #	Cat. #

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

OAC2133 ①

OAC3101 ① OAC3133 ① OAC3139 ① OAC3103 ①

OAC2139 ①

START OFF RESET LIGHT ON STOP RUN TRIP HAND ON JOG TEST **AUTOMATIC EMERGENCY OPEN DOWN** RAISE **FORWARD** CLOSE IN **LOWER** UP OUT REVERSE

With momentary left handle and maintained right handle. For momentary "START", maintained "STOP" and similar applications.

Normal Pos.	2 Circuit Universal
Diagram	818 818 818 818 1-8-1

Enclosure with Pushbuttons				
Hub Size	Cat. #			
3/4	OAC2291 ①			
1	OAC3291 ①			

OAC2101 ①

[†]Factory sealed for Class I, Div. 1 & 2, Groups B, C, D
*Two universal contact blocks, must be wired as two circuits, one normally open and one normally closed.

OAC Series Pushbutton Stations and Heavy Duty Selector Switches

600 VAC Standard Factory Sealed†

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4, 7ABCD, 9EFG, 12

Cl. I, Div. 1 & 2, Groups A, B, C, D Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

4C

Ordering Information - Selector Switches

						sure with tor Switch
Style	Position 1	Position 2	Position 3	Replacement Contact Blocks*	Hub Size	Cat. #
Two- Position, Two- Circuit	A1 als A2 • •	* i *		ED21	³/ ₄ 1	OAC2471 ① OAC3471 ①
Two- Position, Four- Circuit	A1 eie A2 • • B1 eie B2 • •	÷+÷		ED22	³ / ₄ 1	OAC2472 ① OAC3472 ①
Three- Position, Two- Circuit ‡	A1 <u>aia</u> A2 • •	<u> </u>	::	ED21	³ / ₄ 1	OAC2473 ① OAC3473 ①
Three- Position,	A1 min A2 • • B1 min B2 • •	0 0 0 0	\$4 \$4	ED22	³ / ₄ 1	OAC2474 ① OAC3474 ①
Four- Circuit ‡	A1 • • • A2 • • B1 ala B2 • •	eie • •	*** ***	ED22	³ / ₄ 1	OAC2475 ① OAC3475 ①



OAC Selector Switches are furnished with pushbutton contact blocks, cam actuated by a maintained contact selector mechanism to operate in the sequences shown in the diagrams below.

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Two-Position

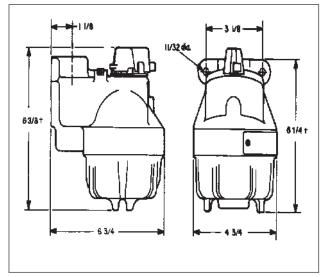
RUN, JOG	FAST, SLOW	IN-OUT
HAND, AUTOMATIC	OPEN, CLOSE	RAISE-LOWER
FORWARD, REVERSE	UP,DOWN	START-STOP
	ON. OFF	

Three-Position

RUN, OFF, JOG HAND, OFF, AUTOMATIC 1, OFF, 2 OPEN, OFF, CLOSE UP, OFF, DOWN FORWARD, OFF, REVERSE FAST, OFF, SLOW

Dimensions*

In Inches:



†Factory sealed for Class I, Div. 1 & 2, Groups B, C, D

‡ Suffixes S634 or S635 may be used on these catalog numbers. See page 567 of explanation of options. *Dimensions are approximate. Not for construction purposes. For cover removal, add 2½" to dimension.

Control Station Covers

Hinged and Open Front



Open Front Cover

Applications:

Added environmental protection for Eaton's Crouse-Hinds control stations is now available from a patented "slip on" series of covers. Easy to install, these enclosures are available in hinged and open front styles, and are ideal for corrosive and adverse areas where product endurance is essential.

Secured Access Hinged Cover

- High moisture areas due to weather, steam, or wash down procedures.
- Areas where dirt, dust, mud, sand, etc. interferes with equipment operation.
- Prevention of accidental equipment operation.
- Instances requiring equipment lockout/tagout.

Quick Access Open Front Cover

- Areas requiring quick access to control device.
- Areas of high moisture from weather or dripping liquid.
- Prevention of accidental equipment operation.
- Areas with possible damage from bumping or banging.

Features and Benefits:

- Clear UV stabilized Lexan polycarbonate plastic allows the enduser to see enclosed controls and is strong enough to withstand the rough treatment found in the industrial workplace.
- Downtime due to weather or accidental bumping is eliminated and plant shutdowns caused by inoperable or accidentally operated pushbutton devices are non-existent.
- · Lockout/tagout capabilities conform to OSHA requirements and provides increased personnel safety.
- Quick and easy slip on installation requires no tools or interruption of service.
- · Hinged cover provides superior sealing through heavy duty neoprene gaskets.
- · Colored covers are available (e.g. red for emergency, yellow for fire alarm, etc.).
- Specific chemical-resistant covers available (may not be clear) consult factory for minimum order quantity.
- · Capability to engineer cover to fit any size device consult factory.



Hinged Cover

Hinged Covers

Single Gang Application	Cat. #
EDS(C) and EFD(C) control stations	NC CH1
EFS(C) control stations	NC CH1 EFS
MC(C) control stations	NC CH1 MC
FS(C) back box with cover assembly	NC CH1 FS
FD(C) back box with cover assembly	NC CH1 FD
EGF11 and EGF12 (Ground Fault)	NC CH1 EGF 11
N2S(C) Krydon: 1 & 2 devices	NC CH1 N2S
N2D(C) Krydon: 1 & 2 devices	NC CH1 N2D
GHG432 control station	NC CH1 GHG
Single Gang (Long) Application	Cat. #
onigic dang (Long) Application	Oat. π
EFD(C) (3 device)	NC CH1 3L
EFD(C) (3 device)	NC CH1 3L
EFD(C) (3 device) N2S(C) Krydon: 3 devices	NC CH1 3L NC CH1 N2S 3L
EFD(C) (3 device) N2S(C) Krydon: 3 devices N2S(C) Krydon: 4 devices	NC CH1 3L NC CH1 N2S 3L NC CH1 N2S 4L
EFD(C) (3 device) N2S(C) Krydon: 3 devices N2S(C) Krydon: 4 devices Double Gang Application	NC CH1 3L NC CH1 N2S 3L NC CH1 N2S 4L Cat. #
EFD(C) (3 device) N2S(C) Krydon: 3 devices N2S(C) Krydon: 4 devices Double Gang Application EDS(C) control stations	NC CH1 3L NC CH1 N2S 3L NC CH1 N2S 4L Cat. # NC CH2
EFD(C) (3 device) N2S(C) Krydon: 3 devices N2S(C) Krydon: 4 devices Double Gang Application EDS(C) control stations EDSCM32: 2 gang tandem	NC CH1 3L NC CH1 N2S 3L NC CH1 N2S 4L Cat. # NC CH2 NC CH2L
EFD(C) (3 device) N2S(C) Krydon: 3 devices N2S(C) Krydon: 4 devices Double Gang Application EDS(C) control stations EDSCM32: 2 gang tandem EDSCM33: 3 gang tandem	NC CH1 3L NC CH1 N2S 3L NC CH1 N2S 4L Cat. # NC CH2 NC CH2L NC CH3L

Open Front Covers

Single Gang Application EDS(C) and EFD(C) control stations EFS(C) control stations MC(C) control stations FS(C) back box with cover assembly FD(C) back box with cover assembly EGF11 and EGF12 (Ground Fault)	Cat. # NC CH1 QA NC CH1 EFS QA NC CH1 MC QA NC CH1 FS QA NC CH1 FD QA NC CH1 FD QA NC CH1 EGF QA
N2S(C) Krydon: 2 device assembly N2D(C) Krydon: 3 device assembly	NC CH1 N2S QA NC CH1 N2D QA
Single Gang (Long) Application EFD(C): 3 device control stations N2S(C) Krydon: 3 device assembly N2S(C) Krydon: 4 device assembly	Cat. # NC CH1 3L QA NC CH1 N2S 3L QA NC CH1 N2S 4L QA
Double Gang Application EDS(C) control stations EDSCM32: 2 gang tandem EDSCM 33: 3 gang tandem FS(C) back box with cover assembly FD(C) back box with cover assembly	Cat. # NC CH2 QA NC CH2L QA NC CH3L QA NC CH2 FS QA

Custom covers can be supplied but must be accompanied by either a sample of the device to be covered or a copy of a drawing with all actual measurements of the device to be covered. Covers can also be color-coded. Consult factory.

Replacements for Pushbutton and Selector Switch Control Stations

600 VAC Heavy Duty

ED Series Pushbutton Contacts (for control stations built in 1996 or earlier) Complete with Mounting Strap and Hardware







	1 Circuit Universal	2 Circuits Universal	2 Circuits 1 Open - A 1 Closed - B	3 Circuits Universal	
	<u>aia</u> • •	eie eie	A B		<u>aia</u> • •
Where Used	Cat. #	Cat. #	Cat. #		
MC pushbutton stations and selector switches OAC pushbutton stations and selector switches EWC pushbutton stations	ED11 ED21	ED12† ED22† ED32†	ED12† ED22† ED32†	-	
EMP selector switches DSD962 pushbutton cover	ED38	ED35	-	- ED13	

FlexStation Series Pushbutton Contacts (for control stations built in 1997 or later) Contact Block without Mounting Strap



1 Circuit Universal	2 Circuits Universal	1 Open - A 1 Closed - B	3 Circ Unive		
<u>aia</u> • •	eie eie	A B	<u>aia</u> • •	<u>aia</u> • •	<u>aia</u> • •
Cat. #	Cat. #	Cat. #			
ESWP126	ESWP126 (2)	ESWP126 (2)	-		

EDS and EFS pushbutton stations and selector switches DSD962 pushbutton cover

Contact Ratings

Where Used

	Max. Co	urrent			Continuous
	(Amper	es)	Voltamp	eres	Current
Volts	Make	Break	Make	Break	(Amperes)
600 VA	C Heavy	Duty (NEM	A A600)		
120	60	6.0	7200	720	10
240	30	3.0	7200	720	10
480	15	1.5	7200	720	10
600	12	1.2	7200	720	10
Direct	Current (NEMA P15	0)		
125	1.1	1.1	138	138	5

External Operating Buttons





ESWP126 (3)

CF859	CF705	5
Where Used	Colors Available	Cat. #
MC, EFS, and EFD – current design with nylon guards	Red, Green, Black	CF859 K1 ①

EMPS019, EMP019, EMPS029 and EMP029 – single operator FS, EFS, and EFD – previous design with aluminum guards

Red, Green, Black CF705-K1 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Hulliber, Selec	t irom the i	ist of Staridard	markings below.
START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY FORWARD REVERSE	OPEN CLOSE UP	DOWN IN OUT	RAISE LOWER

Note: CF859-K1 and CF705-K1 come with 5 buttons.

† Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed. ‡ Use CF705-K1 for DEV11 and DEV12. To order DL legend plates see page 516 for markings.

Crouse-Hinds

Specialty Control Stations Hazardous and Non-hazardous

Description	Page No.
Controls for Bulk Solids Handling AFA / AFAX Conveyor Alignment Switches AFU / AFUX Conveyor Control Safety Switches	see page 589 see page 588
Custom Control Panels EJB Series	see pages 576–581
Ground Fault Control Stations EGF Series	see page 595
Grounding Indication / Control EGL Series	see page 587
Lighting Contactors XLC Series	see pages 574–575
Mine Signal Switches AFU Series	see page 590
Pendant Pushbutton Stations FLEXITITE™ Series FLEXITITE™ D2X Series	see pages 593-594 see pages 591-592
Pushbuttons, Pilot Lights, and Selector Switches EMP Series	see page 584
Timers DSD-TS Series	see page 596

Cl. I, Zones 1 & 2

Cl. II, Div. 1, Groups E, F, G

Cl. II, Div. 2, Groups F, G

CL III

Explosionproof lighting contactors provide efficient use of power, greater utilization of daylight, and automated control in the most extreme harsh and hazardous locations while extending lighting lifetime.

Applications:

- · Areas requiring safe and efficient variable lighting control
- Areas with hazardous gas, vapors, and dust
- · Indoor or outdoor locations in damp, wet, dusty, or corrosive environments

Features:

- Variable lighting control utilizing manual on/off or automatic settings
- Photocell option provides maximum utilization of sunlight for energy conservation
- · Modular lighting contactor design provides flexibility to add future power poles
- Lighting contacts are electrically held for superior performance
- Power poles convert from NO to NC with a simple 180° turn

Standard configuration includes:

- EJB121208 enclosure with mounting plate, hinges, and breather/drain
- Captive, triple lead, quick release, hex head stainless steel bolts with springloaded action
- Tap-in mounting feet offer simple and secure installation and are easily replaceable
- · Special neoprene cover gasket provides a watertight seal to meet NEMA requirements
- · Internal neutral and ground bar
- Electrically held modular lighting contactor
- Two 3/4" NPT control conduit entries one on top and one on bottom
- Twelve 1" NPT power conduit entries six on top and six on bottom
- · DSL nameplates are standard for all operator positions and Lamacoid nameplates are available upon request

Certifications and Compliances:

- Class I, Divisions 1 & 2, Groups B, C, D
- Class I, Zones 1 & 2
- Class II, Division 1, Groups E, F, G
- Class II, Division 2, Groups F, G
- Class III
- NEMA 3, 7BCD, 9EFG
- UL Standard: 1203
- cUL to CSA Standard C22.2 No. 30
- Ex d IIB + H₂

Standard Materials:

- Body and cover copper-free aluminum
- Gasket neoprene
- Cover bolts stainless steel
- Hinges stainless steel

Electrical Ratings*:

- Voltage: 120V
- Amperage: 30A
- Number of Poles: 1-12 standard

Options:

Description	Suffix
Terminal block**	. TB
Timer**	. TR
EV2IH20 photocell (120V)	· PC1
EV2IH208 277 photocell	
(208-277V)*	
Epoxy finish (external)	. S752
Epoxy finish (internal and external) .	S753
Lamacoid Nameplate	. LID
Heater	. R11

Ordering Information:

Amps = 30A

Poles	120V
2	XLC30A2
3	XLC30A3
4	XLC30A4
5	XLC30A5
6	XLC30A6
7	XLC30A7
8	XLC30A8
9	XLC30A9
10	XLC30A10
11	XLC30A11
12	XLC30A12



Example of lighting contactor within the XLC solution



EMP Operate	or Positions:
1.	2.
3.	4.

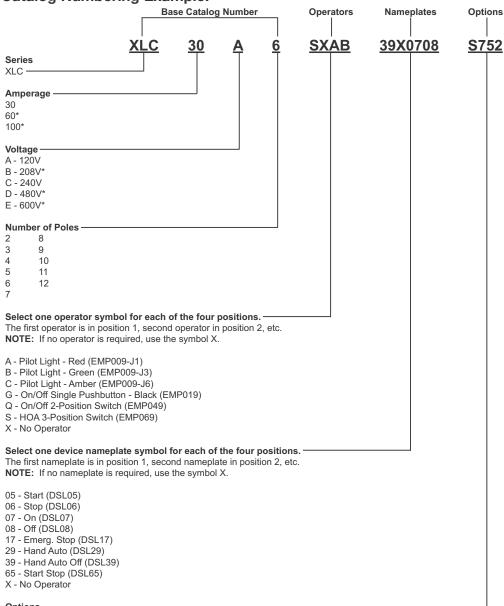
^{**}Timer and/or terminal block may require larger enclosure.

CI. III

Catalog Number Example: XLC30A6SXAB39X0708

XLC Lighting Contactor, 30A, 120V, 6 pole, HOA 3-position switch in position 1, no operator in position 2, red pilot light in position 3, green pilot light in position 4, HOA DSL in position 1, no DSL in position 2, ON DSL in position 3, OFF DSL in position 4.

Catalog Numbering Example:



Options -

Terminal Block** TB

TR Timer**

PC1 EV2IH20 Photocell (120V)

EV2IH208 277 Photocell (208-277V)* PC2

Epoxy Finish (External) S752

Epoxy Finish (Internal and External) S753

R11 Heater

Additional EMP operators available, see page 581

Photocells are shipped separate for field installation.

*Additional configurations are available upon request. Please contact Customer Service for details.

**Timer and/or terminal block may require larger enclosure.

5C

Globally Certified—Individually Customized

Cl. I, Div. 1 & 2, Groups B*, C, D UL and cUL approved Cl. I. Zones 1 & 2 Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

Ex d IIB + H₂ T6 Certified to ATEX Directive† NEMA 3, 7B*CD, 9EFG **IP66**

The following pages will assist you in choosing the combination of features suited to your needs and requirements. The easy, five-step process will take you through the specification of cover openings, specifying devices, drilled and tapped conduit openings, device locations, and legend and nameplate selection.

After filling out your separate order form for each panel, fax it to your local Eaton's Crouse-Hinds Distributor. Please consult the factory for alternatives not detailed in these pages, such as other conduit arrangements, terminal blocks, or circuit breaker operating handles.

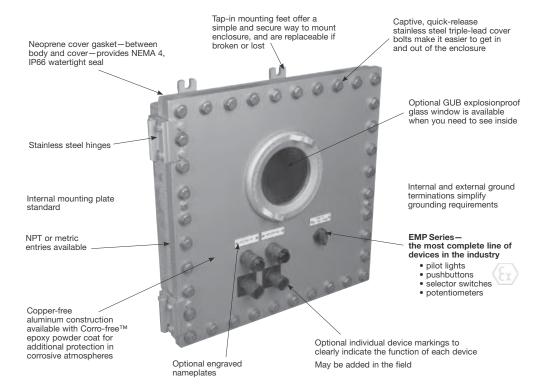
Applications:

- · Manufactured for hazardous environments, the EJB Custom-Built Control Panel is an explosionproof enclosure built to customer specific requirements
- · Available in a variety of sizes with an unlimited combination of devices, windows, and markings, these panels are designed to maximize the efficiency of each unique process

Features:

50

The foundation of the Custom-Built Control Panel is our tried and tested copper-free aluminum EJB enclosure. This corrosion resistant, heavy-duty enclosure features bolted construction, stainless steel hinges, and flexible tap-in mounting feet.



Certifications and Compliances: EJB Custom Control Panels

NEC/CEC:

Class I, Divisions 1 & 2, Groups B*, C and D Class I, Zones 1 & 2 Class II, Division 1, Groups E, F and G Class II, Division 2, Groups F and G Class III

- NEMA: 3, 4, 7B*CD, 9EFG
- cUL to CSA Standard C22.2 No. 30-C22.2 No. 25 Cl. II (E, F, G)
- Ex d IIB + H₂ T6
- UL Standard 1203
- IP66
- Certified to the ATEX Directive when ordered with -ATEX suffix.
- Custom Control Panel is component certified only. For assembly certification, please consult factory.

*Groups C and D only when ordered with GUB window. † Certified to the ATEX Directive when ordered with ATEX suffix.

ATEX Certifications

• EJB Enclosure with Conduit Entries & Device Holes

(Ex) II 2 G Ex d IIB + H2

Certificate #: ITS08ATEX15797U

• EMP Devices

(Ex) II 2 G Ex d IIB + H₂

Certificate #: ITS07ATEX15652U

GUB0108 ATEX Window

(€x) || 2 G Ex d ||B + H₂ • ECD Breather/Drain

Certificate #: ITS07ATEX15638U

(€x) II 2 G Ex d IIB + H₂

Certificate #: ITS07ATEX15639U

EJB Custom-Built Control Panels

Globally Certified—Individually Customized

Ordering and receiving Eaton's Crouse-Hinds EJB Custom-Built Control Panels is now easier and faster than ever. Follow the steps below, fill out a separate order form for each panel, and fax it to your local Eaton's Crouse-Hinds Distributor. It's as simple as that!

Easy Five Step Ordering Process:

- 1 Specify cover openings and devices.
- **2** Specify conduit openings.
- **3** Determine device arrangement.
- 4 Specify device location.
- **5** Specify legend and nameplates.

Step 1

Specify the openings required for the cover of the enclosure.

Indicate in Section 1 of the order form the combination of devices, openings without devices, and windows required.

Total the number of device openings required based on the devices, openings and windows specified in Section 1.

Using Table 1, you can determine the smallest size enclosure required based upon the total number of devices/openings and the number of devices a window requires. (NOTE: The actual size of your custom panel enclosure may change based on the number and size of your entry requirements.)

4					
TABLE		DEVICE	AND	WINDO	W INFORMATION
Total # of Openings /		Dev	ice La	yout	EJB Enclosure Catalog Number
9	=	3	Χ	3	EJB100806
16	=	4	Χ	4	EJB121204
16	=	4	Χ	4	EJB121206
16	=	4	Χ	4	EJB121208
36	=	6	Χ	6	EJB161606
36	=	6	Χ	6	EJB161608
24	=	6	Χ	4	EJB181206
24	=	6	Χ	4	EJB181208
36	=	9	Χ	4	EJB241208
36	=	9	Χ	4	EJB241210
54	=	9	Χ	6	EJB241808
54	=	9	Χ	6	EJB241810
81	=	9	Χ	9	EJB242408
81	=	9	Χ	9	EJB242410
52	=	13	Χ	4	EJB361208
78	=	13	Χ	6	EJB361808
78	=	13	Χ	6	EJB361810
117	=	13	Χ	9	EJB362408

Requires same area as 12 devices. May be installed in all boxes.



GUB0108—Symbol W 4-3/4" dia. viewing area

SIZE REQUIREMENTS							
EJB Size	Max. No. Windows						
121204 to 181208	1						
241208 to 362408	2						

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Step 2

Specify the number, size and location of conduit openings required on the sides, top and bottom of the enclosure body using the information in Tables 2, 3, and 4.

Refer to Table 2 to determine if the enclosure selected in Step 1 will accommodate the required conduit openings. From Table 3, determine the symbol(s) that correspond with the required conduit openings.

Place these symbols in the desired positions using the conduit arrangement diagrams in Table 4.

Any combination of the four arrangement diagrams may be used per side and all positions on a side with openings must have a symbol. The side number (1, 2, 3 or 4) must precede the conduit opening(s) symbols for the respective side. When a side of the enclosure does not require any conduit openings, the side number is omitted from the catalog number.

Enter the complete catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted. Check boxes in Section 2 for options desired.

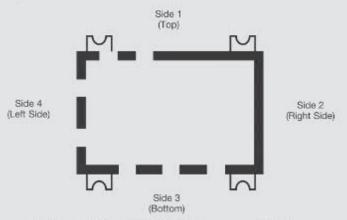
Example:

In Step 1, customer selects an EJB161606 based on the number of devices/openings specified (See Section 1 of sample order form). The following conduit openings are required: (2) 1" on the left side of the top; no openings on the right side; (3) 2" on the bottom; and (2) 3/4" on the left side

Table 2 indicates the maximum size allowed for three conduit openings in an EJB161606 is 2-1/2". Therefore, an EJB161606 would be suitable.

Table 3 indicates a 3/4" opening is symbol B, a 1" opening is symbol C, a 2" opening is symbol G and no opening is a 0.

Using the conduit arrangement diagrams in Table 4, place the symbols for the desired openings in the appropriate positions. Remember, any combination of the four arrangement diagrams may be used and all positions on a side with openings must have a symbol even if no opening is required in a particular position.



Side 1: (2) 1" on the left side of the top = 1CC00

Side 2: No Openings = No Symbols Required

Side 3: (3) 2" on the bottom = 3666 Side 4: (2) 3/4" on the left side = 48B

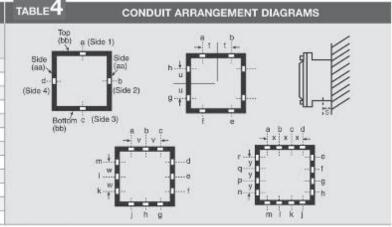
Complete catalog number is: EJB161606-10C003GGG4BB. Enter the completed catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted.

EJB Custom-Built Control Panels

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TABLE	4						CON	DUIT A	RRAN	GEMENT	s				
		Maximum Trade Size and Number of Openings							Spacing Dimensions						
	To	p and E	Bottom (I	ob)		Sides (aa)									
CAT # 1	1	2	3	4	1	2	3	4	S	T	U	٧	W	Х	Y
Drilled and T	apped O	penings													
EJB100806	3-1/2	3	1-1/2	1-1/4	3-1/2	2-1/2	1-1/4	3/4	3-3/4	2-5/16	1-15/16	2-3/4	2-1/2	2-1/2	1-3/4
EJB121204	1-1/2	1-1/2	1-1/2	1-1/4	1-1/2	1-1/2	1-1/2	1-1/4	3	2-1/4	2-1/4	3-5/8	3-5/8	3-1/16	3-1/16
EJB121208	3-1/2	3-1/2	1-1/2	1-1/4	3-1/2	3-1/2	1-1/2	1-1/4	3-3/4	3	3	3-5/8	3-5/8	3-1/16	3-1/10
EJB121208	5	3-1/2	1-1/2	1-1/4	5	3-1/2	1-1/2	1-1/4	4-3/4	3	3	3-5/8	3-5/8	3-1/16	3-1/16
EJB161606	3-1/2	3-1/2	2-1/2	2	3-1/2	3-1/2	2-1/2	2	3-3/4	3	3	4-5/8	4-5/8	4-3/16	4-3/16
EJB161608	5	5	3	2	5	5	3	2	4-3/4	3-1/4	3-1/4	6	4-5/8	4-3/16	4-316
EJB181206	3-1/2	3-1/2	3-1/2	2-1/2	3-1/2	3-1/2	1-1/2	1-1/4	3-3/4	3	3	- 6	3-5/8	4-5/8	3-1/16
EJB181208	5	5	3-1/2	2-1/2	5	3-1/2	1-1/2	1-1/4	4-3/4	4-3/16	3	6	3-5/8	4-5/8	3-1/16
EJB241208	5	5	5	3-1/2	5	3-1/2	1-1/2	1-1/4	5-1/8	4-3/16	3	8-7/16	3-5/8	6	3-1/16
EJB241210	Б	6	5	3-1/2	6	3-1/2	1-1/2	1-1/4	6-1/8	4-3/4	3	8-7/16	3-5/8	6	3-1/16
EJB241808	5	5	5	3-1/2	5	5	3-1/2	2-1/2	5-1/4	4-3/16	4-3/16	8-7/16	6	6	4-5/8
EJB241810	6	6	5	3-1/2	6	6	3-1/2	2-1/2	6-1/4	4-3/4	4-3/4	8-7/16	6	6	4-5/8
EJB242408	5	5	- 5	3-1/2	5	5	5	3-1/2	5-3/8	4-3/16	4-3/16	8-7/16	8-7/16	6	- 6
EJB242410	8	- 6	- 5	3-1/2	6	6	5	3-1/2	6-3/8	4-3/4	4-3/4	8-7/16	8-7/16	6	8
EJB361208	5	5	5	- 5	5	3-1/2	1-1/2	1-1/4	4-3/4	4-7/16	3	8-7/16	3-5/8	8-7/16	3-1/16
EJB361808	5	5	5	5	5	5	3-1/2	2-1/2	5-1/2	4-7/16	4-7/16	8-7/16	6	8-7/16	4-5/8
EJB361810	- 6	- 6	5	5	6	6	3-1/2	2-1/2	6-1/2	4-3/4	4-3/4	8-7/16	6	8-7/16	4-5/8
EJB362408	5	5	- 5	- 5	5	5	5	3-1/2	6	4-3/16	4-3/16	8-7/16	8-7/16	8-7/16	6

NPT Conduit Size	Drilled & Tapped Hole Symbol	Metric Openings	Drilled & Tapped Hole Symbol
1/2	A	M16	AM
3/4	В	M20	BM
1	C	M25	CM
1-1/4	E	M32	EM
1-1/2	F	M40	FM
2	6	M50	6M
2-1/2	н	M63	HM
3	J	0.0227	71.83
3-1/2	K		
4	L		R .
5	M		
6	N		



Step 3

Based upon the EJB selected, use Section 3 of the order form and outline the maximum number of columns and rows available (from Table 1) beginning in the upper left corner. Fill in the length of each side in the space provided.

Note that the left side will be hinged unless otherwise specified in Section 2. In our example, an EJB161606 was selected and according to Table 1, a total of 36 device spaces are available (6 columns and 6 rows). See sample order form.

Step 4

Place the appropriate letter symbol from Section 1 of the order form in the position you desire the devices or openings to be located. If a window is required, outline the position and number of spaces the window will occupy and place the symbol of the window (w) in the center.

Note that 2 windows per enclosure can be used. If more windows are required contact factory. (See appropriate window information in the sample order form.)

EJB Custom-Built Control Panels

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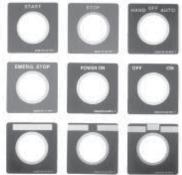
Step 5

Indicate the desired device marking (DSL legend plate) or engraved plate for each device or window in Section 4 of the order form.

Engraved plates will be located above the device or window and are white letters on a black background. If an engraved plate is desired, fill in desired wording on engraved plate (up to 2 lines) on Section 4 of order form. If a device marking is required on EMP device, insert the DSL catalog number from those listed below (Table 5) on Section 4 of order form under column labeled "Device Marking." Be sure to specify the row and column location of the EMP device being marked. See sample order form.

That's it. It's that simple. Now fax the order form to your local Eaton's Crouse-Hinds Distributor.

- MARKET STATE				TOR CHART		
Use the charts below	w to select the	appropriate legend plate(s etched; all others		cation. Markings shown	in bold print a	
Single Function Lege	nd Plates	Double Function Leg	end Plates	Triple Function Legend Plates		
Marking	Cat #.	Marking	Cat #.	Marking	Cat #.	
Automatic	DSL16	Blank with 2 fields	DSL03	Auto-Ott-Hand	DSL49	
Blank	DSL01	For-Rev	DSL30	Blank with 3 fields	DSL04	
Blank with single field	DSL02	Hand-Auto	DSL29	Fast-Off-Slow	DSL41	
Close	DSL21	In-Out	DSL35	For-Off-Rev	DSL40	
Down	DSL23	Off-On	DSL48	Hand-Off-Auto	DSL39	
Emerg. Stop	DSL17	Open-Close	DSL32	Run-Off-Jog	DSL38	
Fast	DSL46	Raise-Lower	DSL36	Open-Off-Close	DSL43	
Forward	DSL18	Run-Jog	DSL28	Raise-Off-Lower	DSL87	
Hand	DSL15	Safe-Run	DSL86	Slow-Off-Fast	DSL88	
In	DSL24	Start-Stop	DSL37	Up-Off-Down	DSL44	
Jog	DSL10	Slow-Fast	DSL65	1-0ff-2	DSL42	
Lower	DSL27	Up-Down	DSL33	Note: Background color for all legend plates is black with the		
On	DSL07					
Off	DSL08			following ex		
Open	DSL20					
Out	DSL25) I		Marking	Plate Color	
Power Ov	DSL14			Start	Green	
Raise	DSL26	3		Stop	Red	
Reset	DSL12			Emerg. Stop	Red	
Reverse	DSL19					
Run	DSL09					
Safe	DSL85					
Slow	DSL47	1		7-		
Start	DSL05	1				
Stop	DSL06	4				
Test	DSL13					
Trip	DSL11					
Up	DSL22					



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Please photocopy and fax all pages of order form (Sections 1-4) to your local Eaton's Crouse-Hinds Distributor.

Section 1: EMP Style Operators—UL, cULus and ATEX

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

Pilot Lights						
	Diagram	Symbol	Quantity			
EMP009-J1 (Red)		A				
EMP009-J1-LED		A1				
EMP0090-J1		A2				
EMP0098-J1		A4				
EMP009-J3 (Green)		В				
EMP009-J3-LED		B1				
EMP0090-J3		B2				
EMP0098-J3	⊕ (120V)	B4				
EMP009-J6 (Amber)	(120V)	C				
EMP009-J6-LED		C1				
EMP0090-J6		C2				
EMP0098-J6		C4				
EMP009-J10 (Clear)		E				
EMP0090-J10		E2				
EMP0098-J10		E4				
EMP009-J11 (Blue)		F				
EMP0090-J11		F2				
EMP0098-J11		F4				

Selector Switches - Two position						
		Diagram	Symbol Quantity			
EMP049	}	Position 1	Q			
EMP059	}	Position 1	R			

Selector Switches - Three position					
	Diagram	Symbol Quantity			
EMP069 EMP069-S634 EMP069-S635	Position 1	S S4			
EMP079 EMP079-S634 EMP079-S635	Position Position 2 Position 3	T T4 T5			
EMP089 EMP089-S634 EMP089-S635	Poston 1 Poston 2 Poston 3 ### ### ### ### ### ### #### ########	U U4 U5			

	Pushbuttons - Single Pushbutton						
			Diag	ıram	Symbol	Quantity	
	EMP019 (Black)	1			G		
	EMP019 (Red)	}	***	:	н		
	EMP019 (Green)	J	Uo	Down	J		
	EMP098 (Red)		A1 9 8	AL 0 0 AZ 0 0	к		
- 1							

EMP019 (Black)	Diagram	Symbol G	Quantity
EMP019 (Red)	***	н	
EMP019 (Green)	Up Down	J	
EMP098 (Red)	A1 0 0 A1 0 0 0	К	

Pushbuttons - Double Pushbutton, Single Operator					
		Diagram	Symbol	Quantity	
EMP029 (Black)	`		L		
EMP029 (Red)	ļ	828 828	М		
EMP029 (Green)	J		N		

Pushbuttons - Double Pushbutton, Double Operator					
Diagram Symbol Quantity					
EMP039	ele ele	Р			

Selector Switches - Keyed Selector Switches					
	Diagram	Symbol	Qty		
EMP0491 EMP0492 EMP0493	Position 1 Position 2 At <u>e.1.e.</u> At <u>e.1.e.</u> At <u>e. e.</u> At <u>e. e.</u>	Q6 Q7 Q8	\equiv		
EMP0591 EMP0592 EMP0593		R6 R7 R8	\equiv		
EMP0691 EMP0692 EMP0693 EMP0694		S6 S7 S8 S9			
EMP0791 EMP0792 EMP0793 EMP0794	A 212 N 212 A 212 N 212 A 212 N 213 N 2 2 N 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	T6 T7 T8 T9			
EMP0891 EMP0892 EMP0893 EMP0894	Mejo mala Mala mala Mala Mejo Mejo Mejo Mejo Mejo Mejo Mejo Mejo	U6 U7 U8 U9	=		

Total Number of all Devices on this page

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Section 1: EMP Style Operators Continued

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

Openings Without Devices (For Future Expansion)				
3/4" - 14 NPSM Opening (plugged)	Symbol	Quantity		
3/4 - 14 NF3IN Opening (plugged)	. Jay	_		

Windows			
GUB0108	Symbol W	Quantity	# of Openings

Total Number of all Device
Openings from previous page
Total Number of all Devices /
Openings from Section 1

5C

EJB Custom-Built Control Panels

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Section 2	Distributor: Contact:
	Customer: Phone Number:
Completed Catalog Number:	EATON'S CROUSE-HINDS FACTORY USE ONLY
Specify the complete catalog number including	Catalog Number Entered:
conduit designations.	Reference #: B#
EJB	OPTIONS
All Eaton's Crouse-Hinds Custom-Built Control Panels	For any of the following options, check here:
are provided with a mounting plate and hinges. Hinges	ATEX Certified (ATEX)
are on left side of enclosure. If you desire hinges on one	Breather and Drain (S756V)
of the other sides, circle choice here: TOP RIGHT BOTTOM	Epoxy finish, external (S752)
	Epoxy finish, internal and external (S753)
Section 3—Exterior Front View	Top (column)
	SIZE (column) 1 2 3 4 5 6 7 8 9 10 11 12 13
Location of Devices and Windows in Cover:	$A \bigcirc \bigcirc$
Outline the cover space available, beginning	B O O O O O O O O O O
in the upper left corner of the grid, based	000000000000000000000000000000000000000
upon the EJB selected. See Table 1 for device layout.	
size	
(p	
Section 4 Device Markings: Indicate by row and column position markings/legends for each device.	
Device Markings:	
Indicate by row and column position	
markings/legends for each device.	
Engraved Diato	
Engraved Plate: Specify markings for each nameplate based upon	$\downarrow \bigcirc \bigcirc$
the following:	$\kappa \cap \cap$
Maximum Number of Characters/Line	*00000000000000000000000000000000000000
Maximum Number of Characters/Line	-00000000000000000000000000000000000000
Marking Size 1/8" 3/16" 1/4" 1/2"	$M \bigcirc \bigcirc$
Number of	Bottom
Characters 36 24 18 9	Note: All device openings are spaced 2.62" center to center.
Specify	
Row Column Device Marking (DSL) or Engraved Plate Lir	ne 1 Engraved Plate Line 2 Marking Size

EMP and EMPS Barrel Assemblies

Cl. I, Div. 1 & 2, Groups B, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

II 2 G Ex d IIB + H₂, T5

Dust-Ignitionproof Raintight Wet Locations NEMA 3, 7BCD, 9EFG

As indicated in the listings, certain barrel assemblies are the same as those used in complete EMP units and may be utilized as replacements.

The remainder are primarily for use with hazardous area boxes to assemble special control stations. For additional information, see pages 576-583 describing custombuilt control panels.

Certifications and Compliances:

- Class I, Division 1 & 2, Groups B, C, D
- Class II, Division 2, Groups E, F, G
- Class III
- NEMA/EEMAC: 3, 7BCD, 9EFG
- UL Standard 1203
- CSA Standard C22.2 No 30
- CENELEC
- ATEX Certificate ITS07 ATEX 15652U

Ordering Information:

Select the Cat. No. from the listings. For pilot lights and illuminated pushbuttons, specify color of jewel using symbols from the table below. For pushbuttons and selector switches, optional markings may be specified in the tables below.

Group 1:

Standard assemblies are for replacement in complete EMP units or for custom-built control panels. Short assemblies are for custom-built control panels only. Both assemblies may be used with System 4 Control Stations.

Pilot light‡



agram	Standard Assembly Cat. #
agram	

(120V)* **EMP009** ①

Single pushbutton Double pushbutton, single operator



Diagram	Short Cat. #	Standard Cat. #
<u>aia</u> • •	EMPS019 2	EMP019 2
बाव बाव	EMPS029 ②	EMP029 ②

Double pushbutton, double operator



Diagram	Assembly Cat. #	Cat. #	
	Short	Standard Assembly	

Two-position selector switch



Diagram Position 1	Position 2	Short Assembly Cat. #	Standard Assembly Cat. #
A1 ala A2 • •	A1 ₱₁● A2 ₱ ₱	EMPS049 ②	EMP049 ②
A1 #1# 81 #1# A2 • • 82 • •	A1 0 81 0 0 A2 0 0 82 0 0	EMPS059 2	EMP059 ②

Three-position selector switch

Diagram Position 1	Position 2	Position 3	Short Assembly Cat. #	Standard Assembly ₹ Cat. #
A1 #1# A2 • •	A1 010 A2 0 0	A1 -1- A2	EMPS069 2	EMP069 ②
A1 #1# 81 #1# A2 • • 62 • •	A1 010 B1 010 A2 0 0 62 0 0	A1 1 B1 1 A2 B2 B2 B2	EMPS079 ②	EMP079 ②
A1 * + B1 ala A2 * B2 * •	A1 #1# 81 #1# A2 • • B2 • •	A1 &16 B1 * 0 A2 * * B2 * *	EMPS089 ②	EMP089 ②

①Add color symbol for each pilot light from

table below.							
Color	Symbol	Color	Symbol				
Red	J1	Clear	J10				
Green	J3	Blue	J11				
Amber	.16						

2 If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Push Button Station Marking

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

[‡] LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED to end of catalog number after last color symbol.

^{*}Other voltages available. Consult factory. For 24 VDC operation, add suffix S300.

The following suffixes may be used with these catalog numbers: S634 - Momentary contact clockwise, spring return to center; S635 - Momentary contact counter-clockwise, spring return to center.

EMP and EMPS Barrel Assemblies

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III II 2 G Ex d IIB + H₂, T5 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
NEMA 3, 7BCD, 9EFG

Group 2: For custom-built control panels.

Illuminated pushbutton‡



Diagram		Long Assembly Cat. #
L _® J *i*	120V pilot light	EMP0090 ①
led are are	120V pilot light	EMP0098 ①

Two-position selector switch, key operated



Maintained Contact Pushbutton



Dia	agram	Long Assembly
Up	Down	Cat. #
A1 ala A2 • •	A1 -10 A2 -0	EMP098 ②

①Add color symbol for each pilot light from table below.

Color

Clear

Blue

Amber J6

②If desired, markings on indicating plates may be added to catalog number. Select from the

Symbol

J10

J11

list of standard markings below: **Push Button Station Marking**

Symbol

J1

J3

			LIGHT ON	EMERGENCY		DOWN	
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

Diagram		– Kay	Short	Standard	
Position 1	Position 2	KeyRemoval	Assembly Cat. #	Assembly Cat. #	
A1 #1# A2 • •	A1 * 0 A2 * 0	Both positions Left only Right only	EMPS0491 ② EMPS0492 ② EMPS0493 ②	EMP0491 ② EMP0492 ② EMP0493 ②	
A1 #1# 81 #1# A2 • • 62 • •	A1 * 1 * B1 * 1 * A2 * B2 * B2	Both positions Left only Right only	EMPS0591 ② EMPS0592 ② EMPS0593 ②	EMP0591 ② EMP0592 ② EMP0593 ②	

Color

Green

Red

Three-position selector switch, key operated

	Diagram		Short	Standard	
Position 1	Position 2	Position 3	Key Removal	Assembly Cat. #	Assembly Cat. # ⊕
A1 ### A2 • •	A1 010 A2 0 0	A1 * 1 * A2 * * *	All Center only Left only Right only	EMPS0691 ② EMPS0692 ② EMPS0693 ② EMPS0694 ②	EMP0692 ② EMP0693 ②
A1 #1# 81 #1# A2 • • 62 • •	A1 <u>e1e</u> B1 <u>e1e</u> A2 <u>e e</u> 82 <u>e e</u>	A1 *1* B1 *1* A2 ** B2 **	All Center only Left only Right only	EMPS0791 ② EMPS0792 ② EMPS0793 ② EMPS0794 ②	EMP0792 ② EMP0793 ②
A1 * * * * * * 1 * 4 * * * * * * * * * *	A1 #1# 81 #1# A2 • • 82 • •	A1 #18 B1 *1* A2 • • B2 **	All Center only Left only Right only	EMPS0891 ② EMPS0892 ② EMPS0893 ② EMPS0894 ②	EMP0892 ② EMP0893 ②

[‡] LED pilot lights can be furnished in place of standard incandescent pilot lamps.

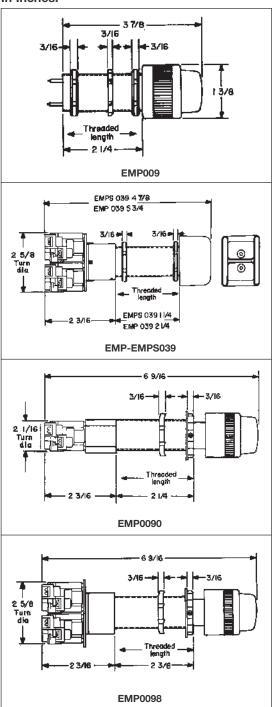
Add suffix LED to end of catalog number after last color symbol.

The following suffixes may be used with these catalog numbers: S634 - Momentary contact clockwise,

The following suffixes may be used with these catalog numbers: S634 - Momentary contact clockwise, spring return to center; S635 - Momentary contact counter-clockwise, spring return to center.

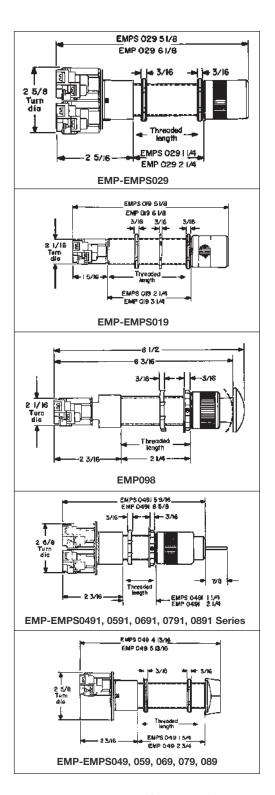
Dimensions* In Inches:

50



*Dimensions are approximate, not for construction purposes.

All barrel assemblies are 3/4"-14 NPSM thread size.



EGL Static Grounding Indicator

With Automated Pump Control and **Static Ground Verification System**

Cl. I, Div. 1 & 2, Groups B, C, D UL/cUL Listed Cl. I, Zone 1 & 2 IIB + H₂ Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

NEMA 3, 4X, 7BCD, 9FG, 12 Explosionproof **Dust-Ignitionproof** Raintight / Wet Locations

Applications:

EGL Static Grounding Indicator is the ideal product for safe loading/unloading of ethanol, biofuel, petroleum, chemicals, plastics and other combustible materials. The EGL is mounted adjacent to loading/unloading areas and connected to transportation tank vehicles, railcars, drums or other portable containers to prevent explosions due to static discharge during product transfer by providing:

- · A ground path for static build-up
- Automatic pump shutdown when static grounding circuit is broken
- · Visual indication of safe, static grounding before, during and after loading and unloading operations

Features and Benefits:

- Static ground verification system provides ground path for static build-up to ensure safe product transfer
- · Integrated control relay allows for safe control of electrically operated pumps or valves, and for energizing remote indicators
- Stainless steel clamp for grounding connection provides industrial durability, corrosion resistance, and increased product lifetime
- · Interior and exterior epoxy powdered paint finish provides superior corrosion resistance inside and out
- LED pilot lights provide long-lasting visual identification of status of ground connection
- ECD Type 4X drain protects interior equipment from environmental moisture and condensation, rain water, and hose-down
- NEMA 4X compact, hose-tight, and corrosion-resistant enclosure offers years of service in harsh industrial environments
- 25 ft. safety fluorescent yellow cord is easily identifiable to ensure safety and reduce tripping hazard
- Neoprene cover gasket provides a watertight seal to meet UL Type 4 (NEMA 4) requirements
- Stainless steel hinges are corrosion resistant while providing safe and easy access to interior of enclosure
- Waterquard[™] desiccant packet absorbs and removes water/moisture and protects the enclosed equipment when not
- · Adjustable mounting feet provide ease of mounting during installation

Certifications & Compliances:

- Class I, Divisions 1 & 2, Groups B, C, D
- Class I, Zone 1&2 IIB + H₂
- Class II, Division 1, Groups E, F, G UL/cUL Listed
- Class II, Division 2, Groups F, G IP 65
 - NEMA 3, 4X, 7BCD, 9FG, 12

Standard Materials:

- Enclosure: Copper-free aluminum with interior and exterior epoxy powder coat
- · Clamp: Stainless steel
- Clamp Grips: Polyvinylchloride dipped
- · Gasket: Neoprene

Electrical Rating Ranges:

- 120-volt AC supply
- Control relay interlocking contact: 15A at 277VAC; 10A at 600VAC
- Dual-tapped 240 and 480 VAC Step Down Transformer available
- Provides 2k ohms or less switching impedance



Ordering Information:

Description	Catalog Number
Indicator with two pilot lights*	EGL210 J1 J3
*Includes one red and one green pilot light.	

Options:

Description	Suffix
Internal space heaters to limit condensation build-up	R11
Transformer suitable for both 220/240VAC or 440/480VAC applications	S883
50 foot cord	50FC

Options:

Replacement Parts:

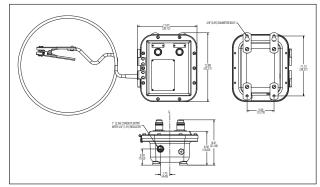
Ground clamp FGI-K1 Ground clamp assembly (includes 25 ft. cord, EGL:20109-B connector and clamp) EGL210 universal interior replacement kit EGL210-R1 Pilot lights (Red) EMP009-J1-LED Pilot lights (Green) EMP009-J3-LED Mounting feet **EJB-KIT5** Transformer (220/240VAC; 440/480VAC) EGL S883 KIT Space heater **EGL R11 KIT** Pilot light plug kit **EGL PLUG KIT**

Weight & Dimensions:

EGL Assembly:

Weight = 32 lbs (14.5 kg)

Dimensions = inches (centimeters)



AFU and AFUX Conveyor Belt Control Switch

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

NEMA 3, 4, 7CD, 9EFG

Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

AFU and AFUX conveyor control switches are used:

- As emergency or normal "STOP" switch for conveyor lines, cranes, unloaders, bulk handling systems and similar equipment
- In steel mills, mining and ore and coal handling operations, automotive and other assembly lines, warehouses, loading docks and various process industry facilities
- In the control circuit of magnetic motor starters to shut down motor-driven conveyors or other machinery when switch is actuated

AFU series complies with requirements for use in Class II areas having combustible dusts that may or may not be electrically conductive.

AFU series are also gasketed for use in hosedown areas even when combustible dusts are present.

AFUX series complies with requirements for use in NEC Class I areas which are hazardous due to the presence of flammable vapors or gases. AFUX series also complies with requirements for use in NEC Class I areas which are hazardous due to the presence of flammable vapors or gases. AFUX series also complies with NEC requirements for use in Class II hazardous areas, or for use in NEC hazardous areas classified simultaneously as Class I and Class II.

Features:

- Furnished with one or two end units, each containing 2-NO and 2-NC contact arrangements.
- Precision switches provide maintained contact (switches have a snap action mechanism).
- Enclosure has three 1" conduit hubs two for horizontal through feed and one at the bottom. Cast mounting lugs on 1½" centers permit attachment to the web of a standard 3" angle iron.
- In installation, the actuating line or cable is connected from a fixed point to the loop on the end unit. A pull on the line of the required operating force and with a total movement of ½" actuates the plunger, opens the switch and trips the red painted indicating arm forward, which locks the plunger in the actuated (switch open) position. Returning the indicating arm to its normal position resets the mechanism. A typical installation would include single end switch units at each end of the conveyor with double end switch units between.
- Depending on the size and length of line, supports at properly spaced intervals may be necessary to ensure that the line or cable weight alone will not actuate switch.

Certifications and Compliances:

AFU Series

• NEC/CEC:

Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- Encl. 3, 5
- NEMA: 3, 4, 9EFG
- IP66
- UL Standard: 698
- CSA Standard: 22.2 No. 30

AFUX Series

NFC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA: 3, 7CD, 9EFG
- IP65
- UL Standard: 698
- cUL

Standard Materials:

- Enclosure Feraloy® iron alloy
- Plunger stainless steel
- Loop bronze
- Indicating arm steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Steel electrogalvanized with chromate finish (red acrylic paint on indicating arm)
- Bronze natural

Options:

 Description
 Suffix

 Finish: Corro-free™ epoxy powder
 \$752

coat – for coating outside only. **Electrical Rating:**

 Control circuit switch – 15 AMP, 600 VAC max.



AFU0333-50 Single end left



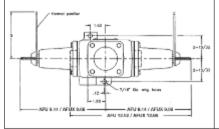
AFU0333-66 Double end

Ordering Information

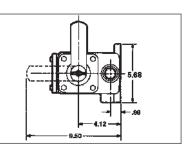
Description	Maximum Weight of Unsupported Line or Cable Without Actuating Switch† (lbs.)	Total Operating Force Required (lbs.)	Contact Arra With 2-NO, 2 Each End Un Cat. #	-NC in
Single end left	15	25	AFU0333 50	AFUX0333 50
Single end left	25	50	AFU0333 60	AFUX0333 60
Single end right	15	25	AFU0333 05	AFUX0333 05
Single end right	25	50	AFU0333 06	AFUX0333 06
Double end	15	25	AFU0333 55	AFUX0333 55
Double end	25	50	AFU0333 66	AFUX0333 66

[†]A galvanized steel aircraft cable, supported every 10' is recommended.

Dimensions In Inches*:







AFA and AFAX Convevor Belt Alignment Switch

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Applications:

AFA, AFAX conveyor belt alignment switches are used:

- As emergency or normal "STOP" switch for conveyor belts whenever they become misaligned or run off their tracks due to excessive speed, uneven load, leveling, breakage and/or other problems.
- In steel mills, mining and ore and coal handling operations, automotive and other assembly lines, warehouses, loading docks, grain loading and handling facilities, and various other bulk handling
- In the control circuit of magnetic motor starters to shut down motor-driven conveyors in case of abnormal belt misalignment or run-off.

AFA series complies with requirements for use in Class II areas having combustible dusts that may or may not be electrically conductive.

AFA series are also gasketed for use in hosedown areas even when combustible dusts are present.

AFAX series complies with requirements for use in NEC Class I areas which are hazardous due to the presence of flammable vapors or gases. AFAX series also complies with NEC requirements for use in Class II hazardous areas, or for use in NFC hazardous areas classified simultaneously as Class I and Class II.

Features:

- Furnished with precision switches that provide normally open and normally closed contacts (switches have a snap action mechanism).
- · Housing consists of a center section which can be mounted either vertically or horizontally, and a switch housing with an attached switch operating arm.
- Enclosure has three 1" conduit hubs. Cast mounting lugs on 11/2" center permit attachment to the web of a standard 3"
- Operating arm has 31/2" long stainless steel protective roller. Approximately 3/4" lateral movement of operating arm actuates switch.
- · Spring loaded operating arm will automatically return switch to normal position when belt interference is removed.
- A severe conveyor belt run-off can rotate the operating arm counter-clockwise up to 85 degrees without damage to the switch mechanism.
- Installation of AFA or AFAX unit on either side of a conveyor belt allows approximately 1" or a predetermined allowable belt misalignment before switch is actuated. A typical installation would include a pair of AFA or AFAX units at each end of the conveyor belt where belt returns.

Certifications and Compliances:

AFA SERIES

NEC/CEC:

Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA: 3, 4, 9EFG
- IP66
- UL Standard: 698
- CSA C22.2 No. 25

AFAX SERIES

NFC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA: 3, 7CD, 9EFG
- IP65
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

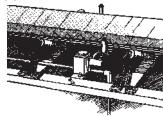
Standard Materials:

- Enclosure Feraloy® iron alloy
- Bearing and operating arm stainless steel with plastic end caps

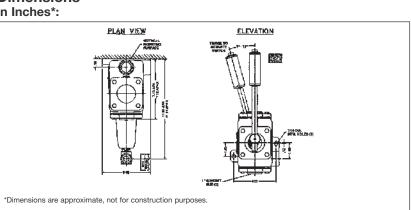
Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Stainless steel natural

Typical AFA Switch **Application**



Dimensions In Inches*:



Electrical Rating:

 Control circuit switches – 15 AMP, 600 VAC max.

Ordering Information

Contact Arrangement	Diogram	Cat. #
Arrangement	Diagraili	Cat. #
2 normally open	1-1 N.O2	AFA20
оро	34	
2 normally closed	'} N.Q. ↓2	AFAX20
0.0000	3 N.C. 7 4	

Options:

Description Suffix Finish: Corro-free™ epoxy powder coat - for coating outside only. S752 AFU mine signal switches are used:

- For signalling circuits or remote control of magnetic motor starters
- In non-hazardous areas of mines or process industry facilities where a rugged enclosure is needed for protection from falling ore and other material or dripping water
- Mounted on walls or in shaft ways and actuated by pulling line or cable attached to the loop at the bottom

Features:

- Sturdy raintight enclosure with heavy mounting lugs
- Wires enter enclosure through clearance holes in the underside
- Switches are actuated by a springloaded plunger which returns to the normal position when the operating force is removed
- Units are furnished with heavy duty motor control push buttons. Several of these may be interconnected electrically for remote control of a magnetic motor starter from more than one location

Certifications and Compliances:

• NEMA: 3

Standard Materials:

- Enclosure Feraloy® iron alloy
- Plunger steel
- Loop bronze

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Steel electrogalvanized
- Bronze natural

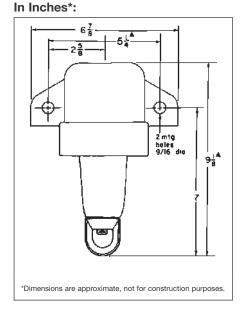


AFU mine signal switch with pushbutton switch (cover removed)

Ordering Information

Maximum Wt. of Line or Cable Without Actuating Switch (lbs.)		With Pushbutton Heavy Duty 600 VAC Max. Cat. #	— Plung
25	50	AFU254	
15	25	AFU154	

Dimensions



5C

FLEXITITE™ D2X Series Attachable Pendant Pushbutton Stations

For Class I, Div. 2 Areas

NEMA 3, 4X, 5, 6, 7BCD (Div. 2), 9FG (Div. 2), 12 Watertight Raintight Dust-tight Wet Locations

Applications:

FLEXITITE attachable pendant pushbutton stations are used:

• For safe multi-function motor circuit control of:

Hoists

Cranes

Machine Tools

Electromagnets

- In hazardous areas such as Class I, Division 2, Groups B, C and D (classified) areas or Class II, Division 2, Groups F and G, as defined by the National Electrical Code
- Where wash downs are necessary in damp, wet, dirty or corrosive locations
- For control applications requiring 2 to 8 functions

Features:

- Safety cushioned neoprene encapsulation protects internal switches and connectors from impact damage and provides extra protection for personnel.
- Stress relief for your cable is built-in. A separate cable grip is not needed.
- Uses Eaton's Crouse-Hinds ESWP factory sealed contacts suitable for use in Class I, Division 2, Groups B, C, and D.
- Switches are rated for 10 amps 600 VAC (NEMA A600).
- Indicator plates meet OSHA requirements for clear identification of functions. A full set of plates is included with each station.
- Jam-resistant operator buttons are raised flexible diaphragms – an integral part of the molded one-piece cover.
- · Compact design.
- · Safety yellow finish.

Certifications and Compliances:

- NEMA: 3, 4X, 5, 6, 7BCD (Div. 2), 9FG (Div. 2), 12
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Body and cover steel reinforced neoprene
- Strain relief and reinforcement plates stainless steel
- Exterior hardware stainless steel

Standard Finishes:

- Neoprene safety yellow
- Stainless steel natural



8-Button Control Station

FLEXITITE™ D2X Series Attachable Pendant Pushbutton Stations

For Class I, Div. 2 Areas

NEMA 3, 4X, 5, 6, 7BCD (Div. 2), 9FG (Div. 2), 12 Watertight Raintight Dust-tight Wet Locations

Ordering Information

Pendant Pushbutton Stations

Description	Cable Dia.	Cat. #	
2-Button	.31 – .75	D2X8635 210	
4-Button	.50 – .75	D2X8635410	
6-Button	.59 – .81	D2X8635 610	
8-Button	.59 – .92	D2X8635 810	

Replacement Indicator Plates (A full set is included with each control station)

2-Button

50

Cat. #	Description	Cat. #	Description
315116 1 315116 2	Down/West Start/North	315116 7 315116 8	Rev/Left Up/East
315116 3 315116 4	Stop/South Off/In		о _р , 2001
315116 5 315116 6	On/Out Fwd/Right		

Replacement Switch Description

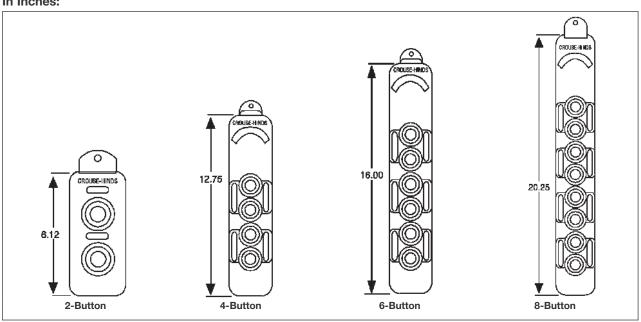
Description	Out. II
Replacement Switch	ESWP126

4, 6 and 8-Button

,			
Cat. #	Description	Cat. #	Description
314850 1	Bridge	314850 6	Fwd/Rev North/South
314850 2	Trolley	314850 9	On/Off Start/Stop
314850 3	Hoist		
314850 4	In/Out Up/Down		
314850 5	Right/Left East/West		

Dimensions

In Inches:



FLEXITITE™ Attachable Pendant Pushbutton Stations

Raintight
Watertight
Dust-tight
Wet Locations

Applications:

FLEXITITE attachable pendant pushbutton stations are used:

For safe, multi-function motor circuit control of:

Hoists

Cranes

Machine Tools

Electromagnets

- Non-hazardous control environments requiring from 2 to 8 functions.
- Where washdowns are necessary in damp, wet, dirty, or corrosive locations.

Features:

- Safety insulated to meet OSHA requirements for enclosing live parts. The entire unit except the strain relief is insulated with neoprene.
- Safety cushioned neoprene encapsulation protects internal switches and connectors from impact damage and provides extra protection for personnel.
- Stress relief for your cable is built-in. A separate cable grip is not needed unless the optional pilot light kit is used.
- Positive action long life momentary contact switches.
- Maintained Off-On toggle switch is optionally available on 4, 6, and 8 button units.
- Jam resistant operator buttons are raised flexible diaphragms – an integral part of the molded one-piece cover.
- Compact 3" x 3" enclosure easily fits your hand.
- Indicator plates meet OSHA requirements for clear identification of functions. A full set of plates is provided with each station

Certifications and Compliances:

- NEMA: 3, 4X, 5, 6, 12
- UL Standard: 508
- CSA Approved

Standard Materials:

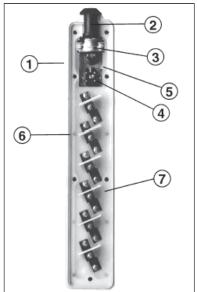
- Body and cover steel reinforced neoprene
- Strain relief and reinforcement plates stainless steel
- Exterior hardware stainless steel

Standard Finishes:

- Neoprene safety yellow
- Steel stainless steel



Inside Front View



- **1.** BODY SEAL Compresses against mating half to form a positive seal.
- REDUCING GROMMETS Permit use of five different cable sizes while sealing cable entrance
- sealing cable entrance.

 3. CABLE CLAMP Secures conductors inside switch. Transfers strain to inner steel core of switch. (Not used with pilot light.)
- TOGGLE SWITCH (OPTIONAL) Maintained off-on switch to control power to pendant stations.
- GREEN GROUNDING SCREW Makes positive contact between inner steel core and ground wire.
- INSULATION BARRIERS On 4- and 6-button models. Position switches and separate N.O. and N.C. switch contacts for added safety.
- SEPARATOR For 4- and 6-button models. Tough polypropylene sheet retains switches and forms an insulated wiring channel. STRAIN RELIEF – Integral part of the inner steel core – provides tie-off point

inner steel core – provides tie-off point for strain chain to relieve tension from electrical cable.

ELECTRICAL INTERLOCK – Schematic furnished to wire switches against opposed operations.

LOW COST, EASILY INSTALLED – Despite their many advantages, Eaton's Crouse-Hinds pendant stations generally cost less than similar metal

RAISED BUMPER – protects lens against damage caused by impact.

Ordering Information - One and Two Speed 2, 4, 6 and 8 Buttons									
Style	Switch*	1 Speed 20A 460V 2 hp. 230V	2 Speed 10A 230V ½ hp. 230V	DC 10A 125V 1/8 hp. 125V	Cable Diameter	Shipping Weight (lbs.)	Di Length	imensior Width	ns Depth
2-Button		· ·	· ·	· ·					<u> </u>
	None	X8635 21	X8635 22	X8635 20	.555 thru .665	21/2	83/4"	21/4"	3"
4-Button									
[©\$\$ ©] ≻	3316317	X8635 41B	X8635 42B	X8635 40B	.505 thru .730	3	131/2"	3"	35/8"
6-Button									
(\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3316317	X8635 61B	X8635 62B	X8635 60B	.590 thru .840	61/2	17"	3"	35/8"
8-Button									
(<u>\$\$</u> \$	3316317	X8635 81	X8635 82§	X8635 80	.698 thru .968	9	211/2"	3"	37/16"

^{*}Should be ordered separately. §2 speed includes: 6, 2-speed switches and 2, single speed switches.

Pilot Light Kit for 4, 6 and 8-Button Only

	Cable Diameter						
		4 and 6 Button					
Lamp Voltage	.50 thru .62	.63 thru .74	.75 thru .87	.69 thru .97			
110-125V AC	3316533	3316533 1	3316533 2	3316624			
210-250V AC	3316534	3316534 1	3316534 2	3316625			

Pilot light kit includes: lamp assembly with lens and bulb, cable support grip, and "S" hook. Support grip and "S" hook not required on 8-button. NEMA 3,4,5,12 only.

FLEXITITE™ 2-Button Attachable Pendant Switch

	Contact		Amps	Amps Break	
Cat. #	Style	Voltage	Make		
X8995 1	Momentary Switch	240 AC	7.5	0.75	
Yellow		120 AC	15.0	1.5	
		24 AC	15.0	2.5	
		250 VDC	0.27	0.27	
		125 VDC	.055	0.55	

Indicator Plates (Replacement only - units come with plates standard)

0 D	-
2-Butt	OI

Cat. #	Description	Cat. #	Description
315116 1	Down/West	315116 7	Rev/Left
315116 2	Start/North	315116 8	Up/East
315116 3	Stop/South	315116 9	Raise/Lower
315116 4	Off/In	315116 10	Up/Down
315116 5	On/Out	315116 11	Right/Left
215116.6	Ewd/Diaht		

4, 6 and 8-Button

Cat. #	Description	Cat. #	Description
314850 1	Bridge	314850 6	Fwd/Rev. (North/South)
314850 2	Trolley	314850 9	On/Off (Start/Stop)
314850 3	Hoist	314850 12	Raise/Lower
314850 4	In/Out (Up/Down)	314850 13	Inbd/Outbd
314850 5	Right/Left (East/West)	314850 14	Off/On

Shoulder Bolts for Fastening Front to Back Cover – 2-Button (P/N 1316311-2); 4- & 6-Button (P/N 1316311-1); 8 button (P/N 1316311-3). NOTE: Refer to price list for identification of stock items.

Replacement Parts

-											
	Ca	at. #	Switch Element Part Numbers								
Style	Front Cover	Back Cover	Toggle Switch Kit†	1 Speed 20A, 460V 2hp, 230V	2 speed 10A, 230V ½ hp. 230V	DC 10A, 125V ½ hp. 125V	Toggle Off/On Element	Barrier	Separator	Parts Kit‡	Pilot Light Kit
2-Button	A335578	A335577 1	Not Avail.	3316480	314896	314903				RX8635 21	
4-Button	3335848 1	3335829 1	3316317	3316480	314896	314903	1316313	314849 1 (4 Req'd)	335616 (1 Req'd)	RX8635 41	See
6-Button	3335845 1	3335830 1	3316317	3316480	314896	314903	1316313	314849 1 (6 Req'd)	335571 (1 Req'd)	RX8635 61	Above Chart
8-Button	3344153	3344154	3316317	3316480	314896	314903	1316313	Not Reg'd	Not Regid	RX8635 80	

†Toggle switch kit – includes: toggle switch, guard, assembly and screws. ‡Parts kit – includes cable grommets, legend plates and assembly screws.

^{315116 6} Fwd/Right

EGF Series Ground Fault Control Station

Cl. I, Div. 1 & 2, Groups C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7CD, 9EFG, 12

Dust-Ignitionproof Raintight Wet Locations

Applications:

EGF Series of control stations are used:

• For the additional safety of personnel, and for equipment protection in remote areas.

Features:

- Copper-free aluminum construction offers lightweight, corrosion resistance and a long, maintenance-free service life.
- 11/4" throughfeed conduit hubs with 11/4"-1" reducers for ease of installation.
- Compact, internally flanged enclosure requires minimum installation area.
- Steel mounting feet with electroplate finish for fast, secure, and corrosionresistant mounting.
- Accepts #14-#10 copper wire sizes for application flexibility.
- Push-to-test button and pilot light (with 10,000 hour incandescent lamp) for easy and constant operational monitoring of unit.
- · Cast aluminum circuit breaker operating handle for durability during use.
- EPD breakers for protection of heat tracing circuits.

Certifications and **Compliances:**

• NEC:

Class I, Div. 1 & 2, Groups C, D Class II, Div. 1, Groups E, F, G Class II, Div. 2, Groups F, G Class III

• NEMA 3, 7CD, 9EFG, 12

Standard Materials:

- · Bodies, covers, threaded barrels, guards, collars, and toggle operator - copperfree aluminum
- Pushbuttons type 6 / 6 nylon
- · Operating shafts stainless steel

Standard Finishes:

- Copper-free aluminum natural
- Sheet steel zinc electroplate with chromate finish
- Stainless steel natural

Electrical Rating:

• GFI, EPD breakers - 120 VAC (single pole), 120 / 240 VAC for two pole (10,000 AIC)

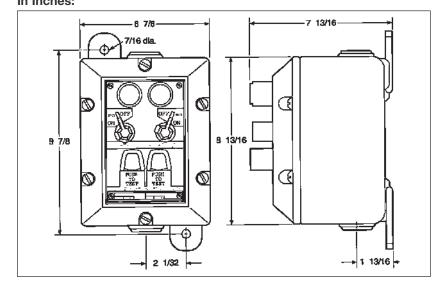


Ordering Information

Number of Breakers	Number of Poles	Milliamp Trip	Cat. #
1	1	5	EGF11 ①
1	2	5	EGF12 ①
2	1	5	EGF21 ①
1	1	30	EGF11EPD ①
1	2	30	EGF12EPD ①
2	1	30	EGF21EPD ①

①Add 15, 20, 25, or 30 amp breaker rating.

Dimensions In Inches:



For use with Eaton's Crouse-Hinds EDS/EDSC back boxes (single and two-gang) and EDSCM modular control device bodies (up to nine-gang maximum). These bodies are to be ordered separately from the DSD-TS covers.

Applications:

• Provides automatic shut-off for fans, heaters, pumps, lights, and other energy consuming loads in Class I and Class II hazardous areas

Features:

- · Spring wound, mechanical timer switch
- Copper-free aluminum covers

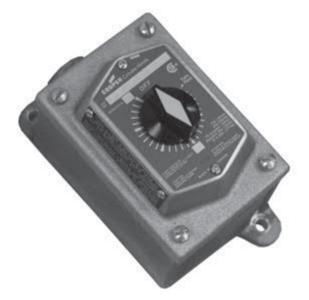
Certifications and Compliances:

- CSA certified per file LR5169
- Class I, Divisions 1 & 2, Groups C, D
- Class II, Divisions 1 & 2, Groups E, F, G

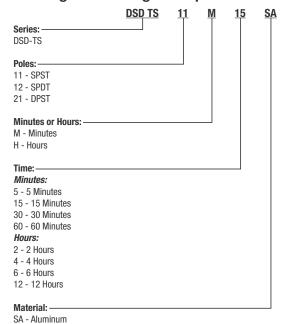
NOTE: Suitable for use in Zone 1 and Zone 2 classified areas (gas groups IIB and IIA) as per Canadian Electrical Code, Part I, Section 18-100(a).

Electrical Ratings:

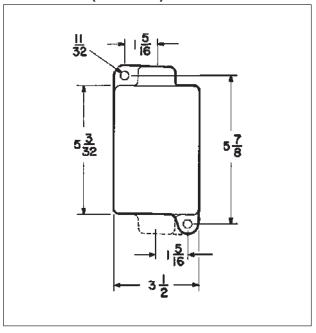
- 1 HP, 125 VAC max.
- 2 HP, 250 VAC max.
- 7A Tungsten, 125 VAC max.
- 20A resistive 125 VAC max.
- 10A resistive 250 VAC max.
- 10A resistive 277 VAC max.



Catalog Numbering Example:



Dimensions (in Inches):



Note: Depth is 5.5" from front of switch to back of box.

Explosionproof Variable Frequency Drives

Description Page No.

Explosionproof VFDs - Class I, Division 1 & 2 ACE10 Series

ACE10 Series see pages 599–603
ACE20 Series see pages 605–609

ACE10 Series Explosionproof Cl. I, Div. 1 & 2, Groups B, C, D (UL) NEMA 3, 4X, 7BCD **Variable Frequency Drives**

Cl. I, Div. 1 & 2, Groups B*, C, D (cUL) Raintight

Wet locations

Utilizes ABB ACS850 Series Drives

The only explosion proof VFD solution utilizing a NEMA 7 classified enclosure

Eaton's Crouse-Hinds Explosionproof VFDs are highly flexible AC drives designed specifically for hazardous area locations. These drives can be mounted next to the motor in the classified area, providing significant installation cost savings - along with the traditional VFD benefits of energy savings, speed and torque control, and system diagnostics.

This Eaton's Crouse-Hinds innovative product features the first ever NEMA 7 enclosure with active cooling, allowing the solution to be rated Class I, Divisions 1 and 2. It is designed to match the high requirements of pumps, compressors, fans, separators, and mixers in the following process industries:

- Oil and gas/refineries
- · OEM skid builders
- Petrochemical
- Water/waste water
- Pharmaceutical
- · Food and beverage manufacturing

Applications:

- For speed control of pumps, compressors, fans, conveyors, separators, mixers, and other process equipment
- · Designed to meet the high reliability and safety requirements of process industries such as oil and gas, chemical and mining

ACE Series System Benefits:

Simple, Cost-Effective Installations

- ACE Explosionproof VFDs are installed 'on-machine' inside the hazardous areas, eliminating expensive, complicated installations
- There is no need to run long lines of conduit and motor cable, dig up roadways and sidewalks, navigate around obstacles and hazards or build off-site control rooms in non-hazardous areas to house VFD clusters
- · Reflected Wave Syndrome is eliminated due to short motor cable runs

Additional VFD Benefits:

Reduce Energy Costs Through Improved Process Control

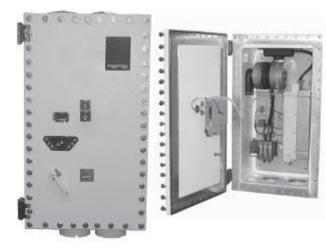
• Fine speed and torque control optimizes system performance and reduces energy consumption

Reduce Operation and Installation Costs

- · Reduce stress on electrical system
- · Reduce water hammer effects with soft start capability
- Lower speed/load on bearings and seals
- · Reduce risk of system damage due to cavitation

Avoid Downtime with Real-Time Equipment and **Process Data**

• Diagnostics help locate disturbances to the system and suggest remedies, allowing proactive maintenance decisions to be made



Certifications and Compliances:

- UL Classified
- Class I, Divisions 1 and 2, Groups B, C, D
- cUL Classified
 - Class I, Divisions 1 and 2, Groups B*, C, D
- Standards
 - UL 1203
- Environmental Ratings
 - NEMA 3, 4X, 7BCD
 - Raintight
 - Wet locations
- · Operating Temperature Range
 - -10°C to 50°C (14°F to 122°F)

Standard Materials and Finishes:

- Body and Cover Copper-free aluminum, epoxy powder coated
- Operating Handle Copper-free aluminum, epoxy painted
- Keypad Stainless steel, natural
- Window Tempered soda lime glass
- Blower Aluminum, natural
- Filters Stainless steel, natural
- Pre-filters Stainless steel, natural
- Disconnect Stainless steel, natural
- Shroud Copper-free aluminum, epoxy painted
- Cover Hinges, Bolts, Washers and Springs Stainless steel, natural
- Internal Brackets Stainless steel, natural
- Manifold and Intake EDPM rubber, natural

Horsepower Ratings:

- Available up to 60HP
- · Higher horsepower ratings coming soon

VFD System Specifications:

• ABB ACS850 Series low voltage, compact AC drives

^{*5}HP and below listed for Group B

CI. I, Div. 1 & 2, Groups B, C, D (UL) NEMA 3, 4X, 7BCD CI. I, Div. 1 & 2, Groups B*, C, D (cUL) Raintight Wet locations

Utilizes ABB ACS850 Series Drives

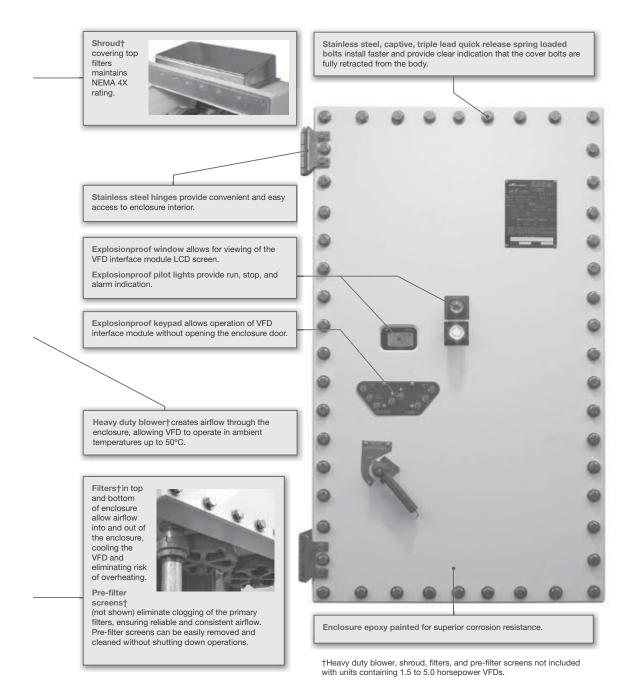
Variable Frequency Drives

ACE10 Series Explosionproof

Cl. I, Div. 1 & 2, Groups B, C, D (UL)

NEMA 3, Raintight NEMA 3, 4X, 7BCD Wet Locations

Utilizes ABB ACS850 Series Drives



ACE10 Series ExplosionproofCl. I, Div. 1 & 2, Groups B, C, D (UL) NEMA 3, Cl. I, Div. 1 & 2, Groups B*, C, D (cUL) Raintight **Variable Frequency Drives**

NEMA 3, 4X, 7BCD Wet Locations

Utilizes ABB ACS850 Series Drives

Ordering Information:

Step 1 - Select VFD Horsepower Rating

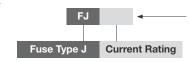
Cat. #	Nominal Horsepower (KW)	Max. Disconnect Rating (Amps)	Disconnect Fuse Type	Enclosure Size	Input Rating (Amps)	Max. Output Rating (Amps)†	Power Loss (Watts)‡	Temp. Rating
ACE10 1	1.5 (1.1)		J	1	2.3	3.0	106	T6
ACE10 2	2.0 (1.5)		J	1	3.1	3.6	112	T6
ACE10 3	3.0 (2.2)	00	J	1	4.0	4.8	132	T6
ACE10 5	5.0 (3.0)	30	J	1	6.6	8.0	178	T6
ACE10 7	7.5 (5.5)		J	1	12.0	12.2	606	T4A
ACE10 10	10.0 (7.5)		J	1	16.0	15.6	674	T4A
ACE10 15	15.0 (11.0)		J	2	20.0	23.0	737	T4A
ACE10 20	20.0 (15.0)	00	J	2	26.0	30.0	737	T4A
ACE10 25	25.0 (18.5)	60	J	2	30.0	35.0	847	T4A
ACE10 30	30.0 (22.0)		J	2	36.0	44.0	903	T4A
ACE10 40	40.0 (30.0)		J	2	55.0	58.0	1217	T4A
ACE10 50	50.0 (37.0)	100	J	2	65.0	72.0	1397	T4A
ACE10 60	60.0 (45.0)		J	2	82.0	81.0	1577	T4A

†De-rating may be required to account for specific environmental conditions (high ambient temperature, altitude, etc). Consult factory for de-rating information. ‡When not installed in a well ventilated environment, provisions must be made to account for heat generation to ensure proper operation of the device.

Step 2 - Add Desired Options

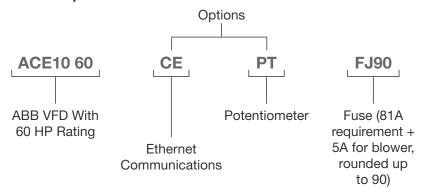
Description	add suffix		
Communication Modules			
Profibus	CP		
Devicenet	CD		
CAN Open	CC		
Modbus	СМ		
Ethernet	CE		
Potentiometer in Cover			
AB 800H	PT		

Step 3 - Add Current Rating for Eaton's **Bussmann Fuses**



Note: Add 5 Amps to your requirements to account for cooling system blower and round up to the nearest increment of 5

Catalog Number Example:



ACE Series Recommended Distributor Stock List:

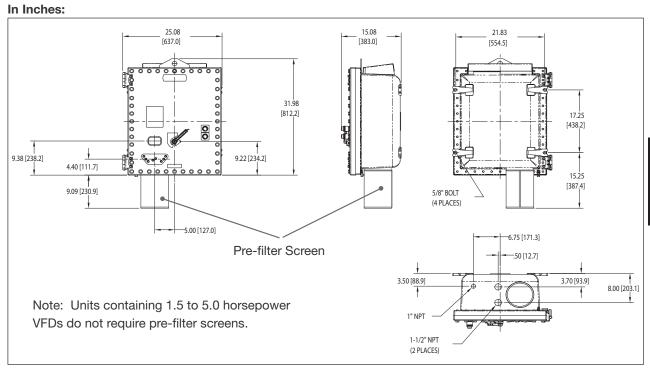
Description	Cat. #
Pre-filter and hardware (1 pc.) Filter assembly (1 pc.) Blower, manifold, and hardware (1 pc.) Pushbutton operator, finger, and hardware (1 pc.) Temperature controller (1 pc.)	ACE KIT 1 ACE KIT 2 ACE KIT 3 ACE KIT 4 ACE KIT 5

ACE10 Series ExplosionproofCI. I, Div. 1 & 2, Groups B, C, D (UL) CI. I, Div. 1 & 2, Groups B*, C, D (cUL) **Variable Frequency Drives**

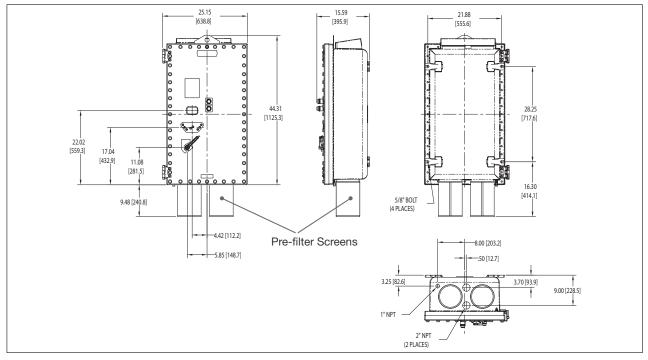
NEMA 3, 4X, 7BCD Raintight Wet locations

Utilizes ABB ACS850 Series Drives

Dimensions



Enclosure Size 1 (1.5 to 10.0 Horsepower VFDs)



Enclosure Size 2 (15.0 to 60.0 Horsepower VFDs)

CI. I, Div. 1 & 2, Groups B, C, D (UL) NEMA 3, 4X, 7BCD Cl. I, Div. 1 & 2, Groups B*, C, D (cUL) Raintight

Utilizes Allen-Bradley® PowerFlex 700® Series Drives

The only explosion proof VFD solution utilizing a NEMA 7 classified enclosure

Eaton's Crouse-Hinds Explosionproof VFDs are highly flexible AC drives designed specifically for hazardous area locations. These drives can be mounted next to the motor in the classified area, providing significant installation cost savings - along with the traditional VFD benefits of energy savings, speed and torque control, and system diagnostics.

This Eaton's Crouse-Hinds innovative product features the first ever NEMA 7 enclosure with active cooling, allowing the solution to be rated Class I, Divisions 1 and 2. It is designed to match the high requirements of pumps, compressors, fans, separators, and mixers in the following process industries:

- Oil and gas/refineries
- OEM skid builders
- Petrochemical
- · Water/waste water
- Pharmaceutical
- Food and beverage manufacturing

Applications:

- For speed control of pumps, compressors, fans, conveyors, separators, mixers, and other process equipment
- Designed to meet the high reliability and safety requirements of process industries such as oil and gas, chemical, and mining

ACE Series System Benefits:

Simple, Cost-Effective Installations

- ACE Explosionproof VFDs are installed 'on-machine' inside the hazardous areas, eliminating expensive, complicated installations
- There is no need to run long lines of conduit and motor cable, dig up roadways and sidewalks, navigate around obstacles and hazards or build off-site control rooms in non-hazardous areas to house VFD clusters
- Reflected Wave Syndrome is eliminated due to short motor cable

Additional VFD Benefits:

Reduce Energy Costs Through Improved Process Control

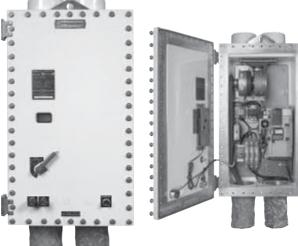
• Fine speed and torque control optimizes system performance and reduces energy consumption

Reduce Operation and Maintenance Costs

- Reduce stress on electrical system
- · Reduce water hammer effects with soft start capability
- Lower speed/load on bearings and seals
- Reduce risk of system damage due to cavitation

Avoid Downtime with Real-Time Equipment and **Process Data**

· Diagnostics help locate disturbances to the system and suggest remedies, allowing proactive maintenance decisions to be made



Wet locations

Certifications and Compliances:

- UL Classified
 - Class I, Divisions 1 and 2, Groups B, C, D
- cUI Classified
 - Class I, Divisions 1 and 2, Groups B*, C, D
- Standards
 - UL1203
- **Environmental Ratings**
 - NEMA 3, 4X, 7BCD
 - NEMA 3X rating with PB23 or RR3 options added Raintight
 - Wet locations
- Operating Temperature Range 0°C to 50°C (32°F to 122°F)

Standard Materials and Finishes:

- Body and Cover Copper-free aluminum, epoxy powder coated
- Operating Handle Copper-free aluminum, epoxy painted
- Window Tempered soda lime glass
- Blower Aluminum, natural
- Filters Stainless steel, natural
- Pre-filters Stainless steel, natural
- Disconnect Stainless steel, natural
- Shroud Copper-free aluminum, epoxy painted
- · Cover Hinges, Bolts, Washers and Springs Stainless steel, natural
- Internal Brackets Stainless steel, natural
- Manifold and Intake EDPM rubber, natural

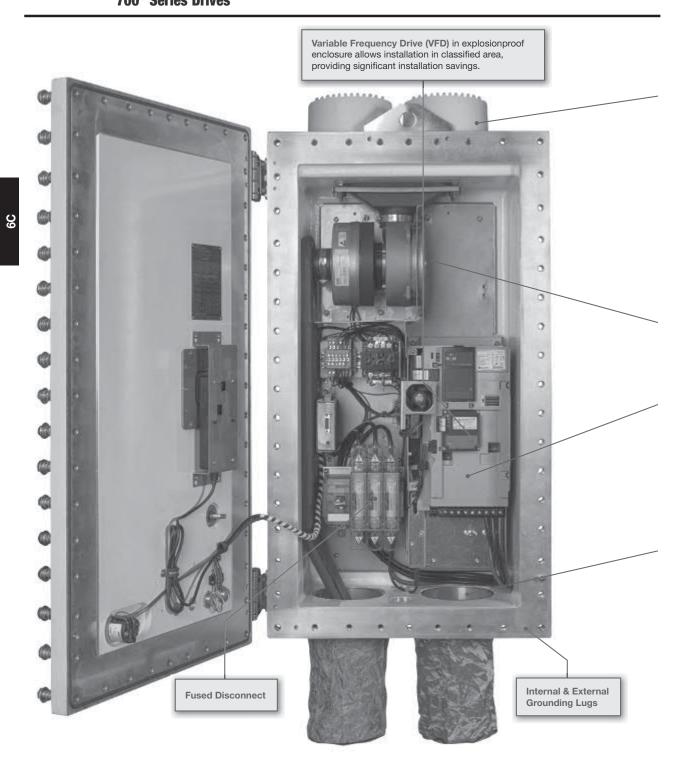
Horsepower Ratings:

- Available up to 50HP
- · Higher horsepower ratings coming soon

VFD System Specifications:

 Allen-Bradley® PowerFlex 700® Series low voltage, compact AC drives

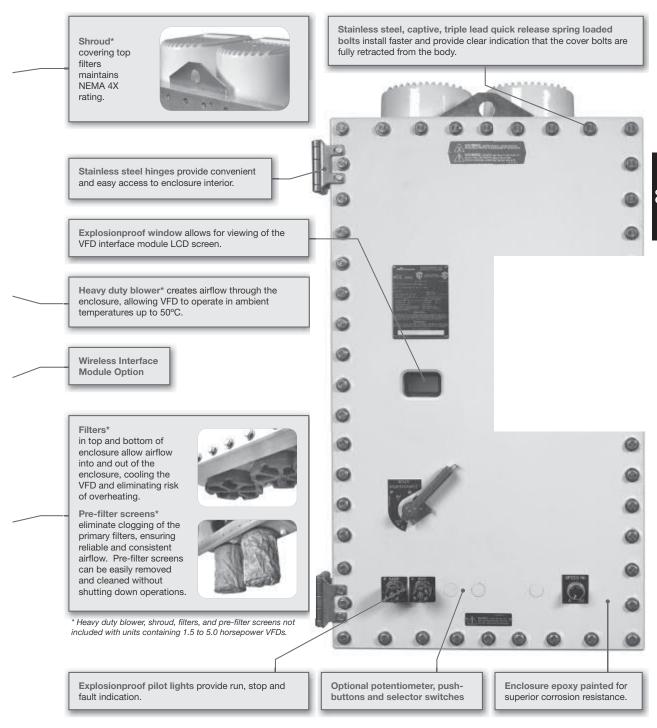
Utilizes Allen-Bradley® PowerFlex 700® Series Drives



ACE20 Series Explosionproof Variable Frequency Drives

Cl. I, Div. 1 & 2, Groups B, C, D (UL) NEMA 3, 4X, 7BCD Cl. I, Div. 1 & 2, Groups B*, C, D (cUL) Raintight Wet locations

Utilizes Allen-Bradley® PowerFlex 700® Series Drives



Wet locations

Utilizes Allen-Bradley® PowerFlex 700® Series Drives

Ordering Information:

Step 1 - Select VFD Horsepower Rating

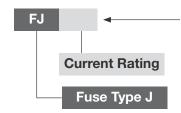
Cat. #	Nominal Horsepower (KW)	Max. Disconnect Rating (Amps)	Disconnect Fuse Type	Enclosure Size	Input Rating (Amps)	Max. Output Rating (Amps)†	Power Loss (Watts)††	Temp. Rating	VFD Manufacturer Part #
ACE20 1	1				1.6	2.1	63	T6	
ACE20 2	2	30	1	4	2.6	3.4	76	T6	20BD027A0AYNANC0
ACE20 3	3	30	J	3.		5.0	93	T6	20DD021A0ATNANC0
ACE20 5	5				6.9	8.0	164	T6	
ACE20 7	7.5	30	1		9.5	11.0	594	T4A	
ACE20 10	10	30	J		12.5	14.0	618	T4A	- 20BD027A0AYNANC0
ACE20 15	15			_	19.9	22.0	726	T4A	- 20BD027A0ATNANC0
ACE20 20	20				24.8	27.0	794	T4A	
ACE20 25	25	60	J	2	31.2	34.0	841	T4A	
ACE20 30	30				36.7	40.0	859	T4A	_ 20BD065A0AYNANC0
ACE20 40	40	100		_	47.7	52.0	1010	T4A	_ 2000000000000000000000000000000000000
ACE20 50	50	100	J		59.6	65.0	1117	T4A	

Above data is for a 480V drive. For 600V drive, please consult factory.
†De-rating may be required to account for specific environmental conditions (high ambient temperature, altitude, etc.). Consult factory for de-rating information. ††When not installed in a well ventilated environment, provisions must be made to account for heat generation to ensure proper operation of the device

Step 2 - Add Desired Options

Description	Add Suffix		
Communication Modules			
Profibus	CP		
Devicenet	CD		
CAN Open	CC		
Modbus	CM		
Ethernet	CE		
Wireless	WL		
Options			
Potentiometer	PT		
Hand-Off-Auto Switch‡	RR3		
Pushbutton Start-Stop‡	PB23		
600 VAC VFD	Consult Factory		
‡RR3 and PB23 cannot be ordered together.			

Step 3 - Add Current Rating for Eaton's **Bussmann Fuses**



Note: Add 5 Amps to your requirements to account for cooling system blower and round up to the nearest increment of 5

Catalog Number Example:

Communication Module & Options Allen-Bradley® Fuse (81A Potentiometer VFD With 50 requirement + **HP** Rating 5A for blower, Ethernet rounded up Communications to 90)

ACE Series Recommended Distributor Stock Lists

AOL deries recommended Distributor otock List.				
Description	Cat. #			
Pre-filter and hardware (1 pc.)	ACE KIT 1			
Filter assembly (1 pc.)	ACE KIT 2			
Blower, manifold, and hardware (1 pc.)	ACE KIT 3			
Temperature controller (1 pc.)	ACE KIT 5			

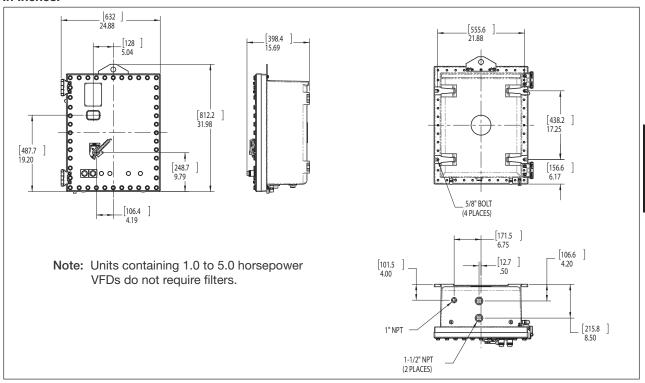
ACE20 Series Explosionproof Variable Frequency Drives

Cl. I, Div. 1 & 2, Groups B, C, D (UL) NEMA 3, 4X, 7BCD Cl. I, Div. 1 & 2, Groups B*, C, D (cUL) Raintight Wet locations

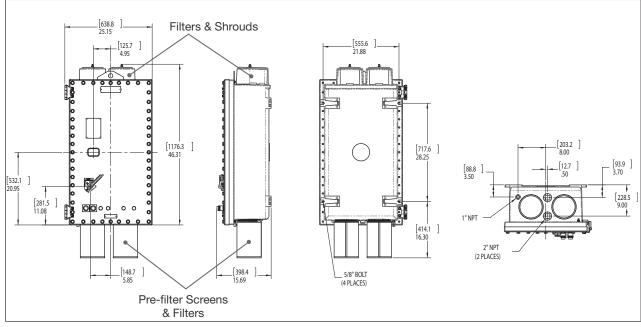
Utilizes Allen-Bradley® PowerFlex 700® Series Drives

Dimensions

In Inches:



Enclosure Size 1 (1.0 to 5.0 Horsepower VFDs)



Enclosure Size 2 (7.5 to 50.0 Horsepower VFDs)

Engineered Solutions Hazardous and Non-hazardous

Description	Page No.
Specialty Products	see pages 612-613
Switch Racks	
General Information	see pages 614-617
Bus Duct Assemblies	see pages 618-619
Selection Guide	see pages 620-622

Cl. I, Div. 1 & 2, Groups A, B, C, D Cl. II, Div. 1 & 2, Groups E, F, G Cl. III NEMA 3, 4, 4X, 7BCD, 9EFG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

Applications:

- Custom engineered solutions for a wide variety of industrial and commercial applications
- Hazardous and non-hazardous products engineered to application-specific designs and customer requirements

Capabilities:

- Product selection and application-specific support, including recommendations for material selection, ratings, and protection
- Project bid support
- Engineering design services
- Custom product design
- Value-add packages for: ease of installation, ease of maintenance, labor savings, integrated packages, and portable products

Certifications and Compliances*:

- NEC
 - Class I, Divisions 1 & 2, Groups A, B, C, D Class II, Divisions 1 & 2, Groups E, F, G Class III
- NEMA: 3, 3R, 4, 4X, 7BCD, 9EFG, 12

*Ratings may not be available or relevant for every proposal.

Labor Saving Solutions:

- · Product sub-assemblies and sub-systems
- Pre-fixtured products, pre-terminated cables, plugs, fittings, and glands



Integrated Solutions:

- Enclosed metering and instrumentation
- Component populated enclosures
- Custom machining, painting, and legend
- Installed fittings and seals



Ease of Installation Solutions:

- Rack assemblies control, distribution, protection, monitoring
- Skid assemblies
- · Pre-wired products



Portable Solutions:

- Power distribution
- · Lighting products
- Plugs
- Protection equipment



Interested in a custom engineered product? Contact your local Eaton's Crouse-Hinds sales representative to see how we can design a solution for you. Fill out the request form on the following page to receive a custom quote for your inquiry.

7C

Engineered Solutions

Cl. I, Div. 1 & 2, Groups A, B, C, D Cl. II, Div. 1 & 2, Groups E, F, G

CI. III

NEMA 3, 4, 4X, 7BCD, 9EFG, 12

Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

Request a Quote

Customer:	Location: Date: Immediate Buy
Is a current copy of plant STDS/SPECS available to Ea	aton's Crouse-Hinds?
Area Classification:	Dimension Restrictions:
HAZARDOUS - Circle all that apply: ☐ Class I ☐ Div. 1 ☐ Div. 2 Groups B, C, D ☐ B ☐ C ☐ D	☐ Width ☐ Height
☐ Class II ☐ Div. 1 ☐ Div. 2 ☐ E ☐ F ☐ G	Service System: (i.e. 480V, 3PH, 3W, 60 Hz) VOLT PH W HZ AMP
☐ Class III	
NON-HAZARDOUS ☐ Ordinary Locations	
NEMA Rating □ 3R □ 4 □ 4X	
Products Involved (Select all that apply): Control & Apparatus Plugs & Receptacle Fittings & Glands Commercial Product Lighting Other Description:	cts
Please attach any supporting documentation to this materials, specifications, etc.	form, including: sketches, single line diagrams, drawings, bill of
CONTACT: E-mail: crouse.customerctr@cooper	rindustries.com

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4X, 7BCD, 9EFG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Applications:

Free-standing switch rack assemblies are used:

- To provide a complete motor control center in one integrated package
- · Outdoors and indoors
- In damp, wet or corrosive locations such as sewage treatment plants, lumber mills, marine installations, and food preparation areas
- In areas made hazardous due to the presence of flammable vapors or gases, such as petroleum refineries, chemical and petrochemical plants, gas gathering plants, pipeline compressor stations, and drilling rigs, both onshore and offshore
- In areas where hazardous dusts are present, such as coal handling facilities, grain processing and handling plants, and certain food process industries

Features:

- Complete factory assembled and wired switch racks
- Pre-drilled bus boxes allow for quick and easy changing or adding of components
- Complete assembly covered under one order, eliminates engineering costs, additional costs of placing separate orders with several vendors for various components, and assembly and scheduling problems at job site
- Wiring is simple. After switch rack is in place, feeders are connected to the main bus and connections made from starters motors. No other field wiring is necessary
- Maintenance time and costs are reduced by having controls grouped.
 Work is performed in one location instead of moving from one control to another in various locations
- Major components are standard EBM, EPC, NMC, NMG, NCB, FLB, D2PB, EXD, D2D, EPL, and D2L enclosures featuring ready access to starters and breakers for inspection and maintenance
- Custom built racks to meet your exact requirements are an Eaton's Crouse-Hinds specialty. Complete quotations will be supplied for any job, large or small (38' length max)



Certifications and Compliances:

• NEC:

Class I, Divisions 1 & 2, Groups C, D (Group B optional)
Class II, Division 1, Groups E, F, G

Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• NEMA: 3, 4X (optional), 7B (optional) CD, 9EFG, 12

Standard Materials:

- Rack frames structural steel or aluminum channel members, bolted and welded
- Components see sections A & C for material

Standard Finishes:

- Rack frame hot dip galvanized steel or natural aluminum
- Components see sections A & C for finishes

Options:

- Rack frame finish corrosion resistant primer with air dry epoxy
- Options listed for individual components can be incorporated in complete switch racks

Switch Rack Assemblies

CI. I, Div. 1 & 2, Groups B, C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 4X, 7BCD, 9EFG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Construction:

General:

- All construction to be in accordance with current National Electrical Code® (NEC), National Electrical Manufacturers' Association (NEMA), state and local standards as designated by the purchaser.
- All hazardous area enclosures for motor starters, combination motor starters, circuit breakers, motor circuit protectors, instrument enclosures, panelboards, main bus, fittings, receptacles, and lighting fixtures shall be made and supplied by the manufacturer.
- All explosionproof threaded enclosures for combination starters, circuit breakers, motor circuit protectors, and starters shall be UL classified.
- All other standard hazardous area enclosures shall be UL listed or UL classified.
- Manufacturer shall retain permanent records of all motor control racks and shall have the capability of duplicating, or replacing, any fully-assembled rack or rack component.
- Manufacturer to assume responsibility for construction, purchase/manufacturer of components, complete circuit continuity testing, and testing of mechanical functions of components.

Rack Frame Design:

Structure:

- Switch rack, either single or double face as required, shall be rigid, free-standing structures. Racks shall be factorywelded, assembled and fabricated from standard rolled structural steel or aluminum shapes.
- Vertical risers will be 6" I-beam and horizontal members shall be 6-inch channel
- Mounting feet shall be 6-inch channel.
 Width of such feet for single-sided racks shall be 41 inches.
- End mounting feet will be braced (welded) to the upright with 6" T member.
- Mounting feet shall be anchored at the job site with 1-inch diameter bolts.
 Anchor bolts and mounting pads will be the responsibility of the user.
- Maximum horizontal spacing between mounting legs shall not exceed 6 feet. (Specific dimensions to be determined by the manufacturer.)
- Racks longer than 20 feet will be supplied as bolt-together sections. (Specific section dimensions to be determined by the manufacturer.)

Grounding:

 A pressure-type grounding lug with appropriate wire capacity will be provided at each end of frame.

Finish:

• Rack frame shall be hot-dip galvanized after fabrication or natural aluminum.

Eaton's Crouse-Hinds switch rack installed in a fuel storage area.

Main Bus Equipment:

Class I, Division 1:

• Main bus material shall be copper only and capable of withstanding up to 65K amps fault current. Cable bus will be wired to terminal blocks enclosed in cast, copper-free aluminum, explosionproof junction boxes, Eaton's Crouse-Hinds type EJB. Such junction boxes for incoming power and distribution wiring shall be provided at either the top or bottom of the rack. Enclosures shall be connected by rigid conduit with conduit seals installed in accordance with the NEC. Load conduit or cable will leave rack either below or above. Manufacturer shall provide conduit layouts.

Class I. Division 2:

· Main bus material shall be copper only and capable of withstanding up to 65K amps fault current. Cable bus will be wired to terminal blocks enclosed in cast, copper-free aluminum weathertight junction boxes, Eaton's Crouse-Hinds type WJB. Such junction boxes for incoming power and distribution wiring shall be provided at either the top or bottom of the rack. Enclosures shall be connected by rigid conduit with conduit seals installed as required by the NEC. Load conduit or cable will leave rack either below or above. Manufacturer shall provide conduit lavouts.

Bus Duct in Lieu of Junction Boxes (Optional):

Cable bus will be wired to a weathertight bus duct provided at the top or bottom of the rack.

Canopy (Optional):

 Single- or double-pitched canopy shall have minimum 15-degree pitch with a minimum 7'6" ground clearance, and 2foot overhang. Roofing material shall be corrugated aluminum. Canopy roof trusses, cross channels, roof material, and mounting hardware shall be shipped unassembled for quick assembly at the job site. All holes in structure shall be provided except for roof mounting holes which will be drilled in the field. Manufacturer will supply drawings and material for complete field assembly of canopy.

Motor Control Components:

Explosionproof Quick Opening Enclosures:

 All circuit breakers, motor circuit protectors and combination or acrossthe-line motor starters shall be enclosed in quick-opening enclosures (Eaton's Crouse-Hinds types EBM or EPC).

Types:

- Ground joint bolted cover enclosure shall be Eaton's Crouse-Hinds type EBM, Underwriters Laboratories Inc. classified for use in Class I, Groups C, D, Divisions 1 and 2, Class II, Groups E, F, G, Divisions 1 and 2 and Class III hazardous locations and shall also be suitable for Type 3, 3R and/or Type 4 (NEMA 3, 3R and 4) areas.
- All enclosures shall be cast of a corrosion-resistant copper-free aluminum alloy (less than 0.4% copper) and shall be of a semi clamshell design with external flange to promote ease of apparatus installation, adjustment and maintenance. Most importantly, enclosure inside dimensions shall conform to the wire bending space requirements of the National Electrical code NFPA70 paragraph 373-6. Enclosures with flat covers, internal flanges or those not conforming to NFPA70 paragraph 373-6 are not permitted.
- Covers shall be hinged on the left side and, when closed, shall be affixed top the body by multiple lead thread bolts to promote quick opening and closing of the enclosure.
- Cover bolts shall be hex head stainless steel without screwdriver slots, to promote the use of a socket or wrench for proper tightening. They shall be captive to the cover and stainless steel spring loaded to indicate the fully unthreaded position. Spring loading shall give visual indication that the bolts are free of the body when the cover is being opened. The cover flange ground joint shall have an integeral gasket to prevent the entry of windblown dust, rain or sleet.

- · All enclosures shall be fitted, as standard, with adjustable, extended, corrosion-resistant, copper-free aluminum hinges that shall allow the cover to swing away from the body when opened and shall permit unobstructed working space for maintenance, adjustment or replacement of the internal apparatus. Additionally these hinges shall allow minimum enclosure-to-enclosure spacing with little interference between an open cover and an adjacent enclosure. Enclosures with hinges fabricated from steel or aluminum stampings shall not be permitted
- All enclosures shall be provided with drilled, tapped and plugged conduit entrances suitably sized for the electrical application. Power conduit entrances shall be located 1 (or 2) each on (or equally spaced from) the enclosure vertical centerline at top and bottom. A single, plugged 1" entrance for a control conduit shall be provided at the bottom of the enclosure. (Some enclosures can also be provided with a plugged 1" entrance for control conduit at the top.)
- All conduit entrances shall be furnished with removable copper-free aluminum reducers, each with integral wire pulling bushing. All conduit entrances shall be located the same distance from the enclosure mounting surface to facilitate conduit run layout and/or stub up construction.
- All enclosures shall have rugged, cast copper-free aluminum circuit breaker and motor starter overload reset operating handles located on the right side of the enclosure. These handles shall operate the internal mechanisms via stainless steel, gasketed shafts and bearings through the side wall of the body. Correct circuit breaker and overload reset operation shall be visually confirmed with the cover open.
- Circuit breaker handles shall be padlockable in either the "OFF" or "ON" position, and shall be trip-free of the circuit breaker itself. An attached indicating plate shall give clear, visual confirmation of the circuit breaker status.
- Adjustable circuit breaker handle stops shall be provided to ensure full operation of the circuit breaker and to prevent handle overthrow that could damage the circuit breaker toggle.

- Motor starter overload reset operating mechanisms shall be field adjustable.
- Threaded construction enclosures shall be Eaton's Crouse-Hinds type EPC, Underwriters Laboratories, Inc. classified for use in Class I, Groups C, D, Divisions 1 and 2, Class II, Groups E, F, G Divisions 1 and 2 and Class III hazardous locations and shall also be suitable for Type 3, 3R and/or Type 4 (NEMA 3, 3R and 4) areas.
- All enclosures shall be cast of a corrosion-resistant copper-free aluminum alloy (less than 0.4% copper) and shall be of a three section design. Multiple-start straight buttress threads between the covers and the body shall ensure quick access to the interior in less than two full turns of the covers. A system of stops shall prevent overtightening and thread seizing. A system of locks shall prevent covers from loosening due to external vibration.
- Female threads on the top cover with male threads on the bottom cover shall ensure inherent water and rain shedding.
- All exposed screws, bolts and hardware shall be stainless steel.
- The external circuit breaker operating handle affixed to a stainless steel shaft, shall be padlockable in either the "ON" or "OFF" position with up to three padlocks. Circuit breaker mechanisms shall be trip-free of the circuit breaker itself to allow the circuit breaker to open under overload conditions even if it is locked in the "ON" position.
- The mounting bracket shall provide a three-point suspension system for quick installation and adjustment.
- Conduit entrances shall have integral wire pulling bushings and conduit stops.
 These openings shall be arranged two at the top and two at the bottom and shall be sized for power and control requirements.

General:

 All enclosures shall be bolted to the horizontal frame members on either the front or back or both front and back.
 Enclosures shall be connected to the main bus via conduit seals. (To be field poured). All hardware used to mount the enclosures shall be stainless steel.

Lighting Panelboards:

Class I, Division 1:

 Panelboards shall be Eaton's Crouse-Hinds type, factory-sealed EXD or EPL as specified and shall meet the following electrical ratings:

EPL – 1, 2 or 3 pole, 240 volt maximum, 100 amp maximum branch trip rating, 10.000 AIC.

EXD – 1, 2 or 3 pole, 600 volt maximum, 100 amp maximum branch trip rating.

Class I, Division 2:

· Lighting panelboard shall be Eaton's Crouse-Hinds type D2L factory-sealed, 120 / 240 volt panelboards and be provided with single-pole, two-pole, or three-pole branch circuit breakers with up to 100 amp trip rating; main breaker ranging to 225 amp. Similarly, lighting panelboard shall be type D2PB factorysealed, 120 / 240 volt panelboards and be provided with single-pole or two-pole factory sealed circuit breakers with 15, 20 or 30 amp trip ratings and maximum 10,000 AIC. Power panelboards type D2D factory-sealed, up to 600 volt are provided with single-pole, two-pole, or three-pole branch circuit breakers with up to 100 amp trip ratings; main breaker rating to 225 amp.

NEMA 4X Option:

 All bus boxes, control enclosures and lighting panelboards will be made of KRYDON® material to meet NEMA 4X requirements.

Fittings:

 All fittings shall be made and provided by the manufacturer. Seals and unions will be provided for each incoming and outgoing conduit as required. All interconnections between components shall be done by the manufacturer with galvanized rigid conduit, and conduit fittings as required to meet the hazardous classification. Interconnecting conduits to be provided with conduit seals as required. All incoming and outgoing rack conduit entrances shall include conduit seals as required by the hazardous location specified. Such seals will be provided by the manufacturer and will not be filled where field wiring is to be introduced.

Conduit Boxes, Outlet Boxes, Device Boxes:

 Conduit boxes, outlet boxes, and device boxes shall be Eaton's Crouse-Hinds Condulet® fittings.

Seals:

 Seals will be standard Eaton's Crouse-Hinds type Condulet EYS. (Eaton's Crouse-Hinds Condulet EYD drains to be specified as required.)

Unions

 Unions will be Eaton's Crouse-Hinds UNY.

Breathers and Drains:

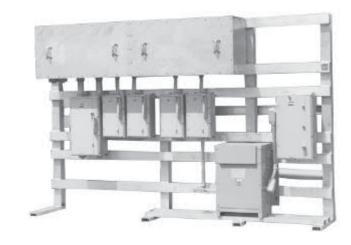
 Breathers and drains shall be Eaton's Crouse-Hinds FCD.

Wiring:

- Standard wire shall be copper only, 600 volt, 75°C minimum rating, UL listed.
- No power wire less than 12AWG shall be used.
- Control wire shall be 14AWG minimum, 7 strands, THW minimum.
- Wiring shall be sized in accordance with the NEC requirements.

Drawings:

 Standard drawings supplied for customer approval shall include complete rack wiring diagram, component data, nominal weight of the rack, and overall rack dimensions.



7C Bus Duct (Termination Box) Assemblies

Applications:

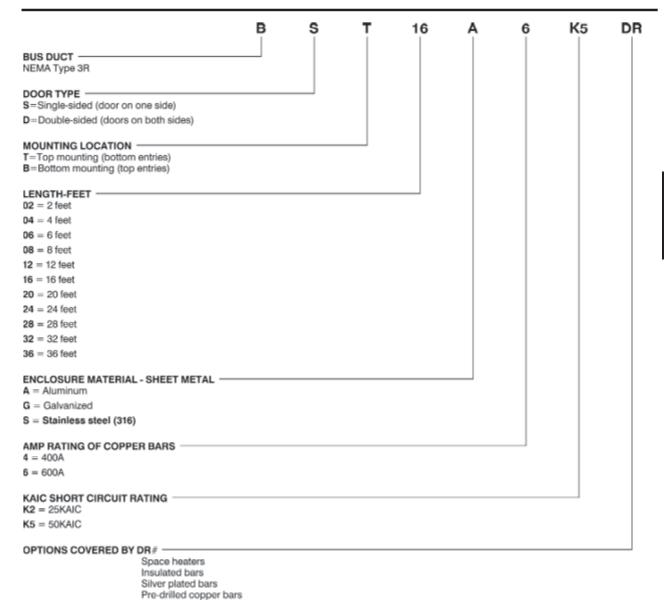
- Eaton's Crouse-Hinds is now offering NEMA 3R, UL Listed Bus Duct (Termination Box) Assemblies as standard product. Up to 600V, three-phase, 3 or 4 wire, 400Amp or 600Amp service with short circuit ratings of 25K or 50K.
- Bus ducts or termination boxes provide a means of tapping feeder circuits for power distribution on outdoor switchrack assemblies or indoor wall-mounted applications.
- Typical application is primarily for bus replacements on existing switchrack installations. New applications may include on-site construction of switchracks or indoor feeder distribution points due to space confinements making local installation more practical.



Features:

- UL Listed.
- NEMA 3R.
- Maximum voltage rating 600V.
- 400 Amp or 600 Amp @ 25KAIC or 50KAIC.
- External flange on bus duct enclosure and lip on covers prevents water leakage and allows covers to hang freely for ease of installation and maintenance.
- 3 degree pitch at top, for water run-off, on all flush mounted bottom entry designs.
- Chorosulfonated polyethlene (Hypalon®) gasket material at all bus box section joints, covers and end plates.
- Standoff (Glastic) insulators molded of (UL) recognized flameresistant fiberglass-reinforced thermoset polyester molding compound.
- Bus bar sizing and bracing complies to UL857 requirements.
- All welded construction sheet aluminum, sheet steel (galvanized), or stainless steel.
- Stainless steel hardware throughout.
- Two hole compression lugs at all power phase connectors attatched with stainless steel hardware.
- One (1) drain is standard per bus duct section (typical 4 foot sections).
- Solid copper bus bars (tin, silver plated and/or insulated optional per customer request).
- Solid copper ground bar standard.
- Incoming main lugs supplied size and location specified with customer.
- Space heaters optional per customer request.
- Pre-drilled copper bars (when specified by customer).
- Conduit entries for Myers hubs optional per customer request.

Bus Duct (Termination Box) Catalog Numbering System



One (1) drain is standard per bus duct (termination box) section.

Conduit entries with Myers hubs

For pricing and lead times, contact Eaton's Crouse-Hinds Customer Service at 866-764-5454 or fax to 315-477-5179.

7C Switch Rack Assemblies

Selection Guide

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4X, 7BCD, 9EFG, 12

Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

		-	
		Location:	
Prepared By:		Date:	
Quotation For:	☐ Estimate/Budget	☐ Bid	☐ Immediate Buy
Quotation Required By (Date) _		Material Required By (Date)	
Interested in a highly reliable, com information at the end of this guide		ill improve the operating efficiency of y	your facility? See additional
Is a current copy of plant STDS/SF	PECS available to Eaton's Crouse-H	inds?	
Area Classification: HAZARDOUS - Circle All that ap □ Class I Div. 1 or 2, Grps B,C & D □ Class II Div. 1 or 2, Grps E,F & G	oply:	Service System: (i.e.	□ Height
☐ Class III		VOLT PH	W HZ
NON-HAZARDOUS Ordinary Locations NEMA 3R, 4, 4X (Circle One) Structural Frame: MATERIAL Steel	FINISH ☐ Hot Dip Galvanized		# Conductors/Phase # AWG/MCM # Inch Conduit (Size) Bottom Entry
Aluminum	Painted	Main Bus Enclosure	o·
☐ Single Face (Components on ONE side only) ☐ Double Face (Components on BOTH sides) ☐ Other ☐ Percent Spare Space		MATERIALS Steel Aluminum Other (Specify) Bus Location - Top of Rack Bus Location Bottom of Rack	FINISH ☐ Hot Dip Galv. ☐ Painted (25 KAIC Standard)
Roof Canopy:		Other - Customer to Specify	
Yes Corrugated Aluminum	□No	Other - oustomer to specify	
☐ Corrugated Fiberglass		MAIN BUS CHARACTERIST	TICS
Enclosure Type:	☐ Threaded	Copper Bars Bare (Standard) Insulated Sliver Plated Tin Plated	☐ Power Distr. Block ☐ Ground Bus in Enclosure

☐ Krydon

☐ Epoxy Coated

7C

Switch Rack Assemblies

Selection Guide

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4X, 7BCD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Main Breaker/Disconnect: (3C,N)			ler Circuit Bre	eaker: (3C, N)	
None	☐ Molded Case Breaker	AIC Rati	ng		
☐ Disconnect Switch	Amp Frame (AF)			(Specify) /100/150 A /100/150 A	AF
☐ Fused	☐ Non-Fused			/225/250 A /400 AF /800 AF Other	NF.
Equipment Requ	irements:				
COMBINATION MOTOR FVNR, Reversing, 2-speed (Oty.		Com	ponent Prefei	rence:	
NEMA Size 0 with	AT/ AF, AF, AF, AT/ AF,	MCP (Cutler-H MCP		SQD A-B f no preference is indicated.	□ GE)
NEMA Size 4 with NEMA Size 5 with NEMA Size 6 with NEMA Size 6 with Refer to Eaton's Crouse-Hin	AT/ AF, AF, AF, AT/ AF, AF, AT/ AF, AF, AT/ AF, AF, AT/ AF,	MCP MCP MCP MCP Or motor Copp.		formers: H Volt-Pri / H Volt-Pri /	Volt-Sec
will size accordingly.	specified above, Eaton's Crouse-I	Hinds			
OPTIONS REQUIRED		Pane	elboards: (1A, N)		
Unless specified differently	options furnished standard Yes		80V) (D2D EXD)		
*Fused Control Transformer Suffix FTPS			Phase	☐ Three Phase	AT
Space Heaters Suffix R11, R22, R44		Branch C	Circuits	oles (i.e. '2P'-2 = Pole)	
Start/Stop Pushbuttons Suffix PB23					
Hand-Off Auto Selection Swi Suffix RR3	tch				
Red Indicating Light Suffix J			NG/HEAT TRACIN	G	
Green Indicating Light Suffix	J3	— Single	V)(D2L, EPL, D2PB) Phase	☐ Three Phase	
*Auxiliary Contacts: (2 N.0./: Suffix S782	PNC)	Main Bre Branch C Qty	Circuits	oles (i.e. '2P'=2 Pole)	AI
Control Relay Suffix S787					
*Breather/Drain Suffix S198\	//S756V				
*12 Point Terminal Block Other - Specify Suffix S786		# GFI (5n (No. Req # EPD (3l (No. Reg	'd) 0mA)	AMP Rating AMP Bating	

‡ Not available with D2PB panelboards.

7C Switch Rack Assemblies

Selection Guide

Cl. I, Div. 1 & 2, Groups B, C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Dust-Ignitionpro Cl. II, Div. 2, Groups F, G Raintight CI. III NEMA 3, 4X, 7BCD, 9EFG, 12

Dust-Ignitionproof Raintight Wet Locations Watertight

Lighting Contac	tor:	Conduit Fittings, Seals, Unions:
Yes No. Poles Control Power Transford Suffix FTPS Hand-Off-Auto Selector Suffix RR3		Plant Standard (i.e."Form 7") Iron
Photocell: Yes Lighting Fixture	□ No S: (1L, 2L, 3L)	Conduit: ☐ Rigid Galv. Steel ☐ PVC Coated
Quantity	Type Voltage	Wiring: □ RHW/RHH □ THWN/THHN (C-H Std) □ THW □ Other Insulation - Specify
☐ Welding Receptacle	es Volts es Volts Yes	Shop Inspection & Tests: Mfr. Standard Tests Customer In Plant Final Inspection Yes
(Intergrated Monitoring Protection a distribution and control applications without leaving your office or motor	nd Control Communications), by Cutter-Hammer/Wes Providing real time information, with an "open" proto control centre. For more information, contact us.	conents (mounted on your switchrack) this state-of-the-art technology is available today. IMPACC inghouse is a unique high frequency-based communications system specially designed for electrical soil, allows you to manage and operate your entire electrical system including remote hazardous areas
Special Requirements: _		

Apparatus

Section A

Innovative, intelligent NEC and IEC solutions safely and efficiently control power and protect circuits in explosive, wet, and corrosive environments worldwide.











New Products in the Apparatus Product Line

- SynergEX Panelboards
- EID Disconnect Assembly (Fused)
- XDT Explosionproof Dry-Type Transformers

Section

- 1 /
- 2A
- 4A

Notable changes to the Apparatus section of this catalog

- Surge Protection Devices (previously section 4A) has been removed. For information on surge protection, please visit Eaton's Crouse-Hinds MTL Instruments at www.mtl-inst.com
- New Section 4A for transformers

Table of Contents

Section A of the Eaton's Crouse-Hinds catalog contains the following product groupings:

Section 1A

Panelboards

(for use in hazardous and non-hazardous areas)

For central control and protection of a large number of feeder or

branch circuits and for housing of circuit breakers.

 D2L
 XLPB

 D2PB
 EXD

 D2D
 GUSC

 EPL
 D2Z

 LP
 N2PB

 SPB
 NLP

Section 2A

Switches

(for use in hazardous and non-hazardous areas)

Switches and enclosures for disconnecting motor, lighting and other

circuits.

 EDS, EDSC
 FSPC
 NST

 EFD, EFDC
 GUSC
 NRS

 FLS
 WST
 6810 Series

 EID
 GHG
 7810 Series

 EBM
 N2RS

Section 3A

Instrument Housings

(for use in hazardous areas)

Housings for a variety of types and makes of meters and

instruments, thermostats, heaters and clocks. HRC ETW

 HRC
 ETW

 TCH
 ETC

 EXH
 ETR

 XC
 D2TW

Section 4A

Transformers

Provide safe and efficient electric power distribution in the most extreme harsh and hazardous locations.

XDT

Panelboards Hazardous and Non-hazardous

Description	Page No.
General Information	see page 626
Application/Selection	see page 627
Wiring Diagrams	see page 628
Hazardous Location Panelboards Division 1 and 2	
PowerPlus™ EXD	see page 641
PowerPlus™ EPL	see page 634
SynergEX SPB	see pages 650-653
Exactra™ LP	see page 630
GUSC	see pages 667-668
Division 2	
PowerPlus™ D2D	see page 641
PowerPlus™ D2L	see page 634
Exactra™ LP	see page 630
D2PB	see page 663
N2PB	see pages 669-671
GUSC	see pages 667-668
D2Z	see page 654
Ordinary Location	
XLPB	see page 672
NLP Series	see page 675

1A

Circuit Breaker Panelboards

General Information

Applications:

Circuit breaker panelboards are used in hazardous and non-hazardous areas (as shown in the individual listings):

- · To provide, in one compact unit, a centrally controlled switching system for a large number of feeder or branch circuits
- · For controlling lighting, heating, appliance, heat tracing, motor and similar circuits
- · In locations where rough usage, moisture, dust, dirt and corrosion are a problem
- To house thermal-magnetic circuit breakers that provide disconnect means, short circuit protection and thermal time delay overload protection

Features:

Panelboards:

- · All main and branch circuit wire lugs are solderless and readily accessible for fast, easy installation
- · Are factory wired from main terminal blocks or main bus to line side of branch circuit breakers
- · With circuit breakers in factory sealed housings (LP1, EXD and EPL), are also factory wired from the load side of branch circuit breakers to readily accessible terminal blocks
- With circuit breakers grouped in one enclosure (LP2, D2D, D2L, D2Z and D2PB factory sealed), branch circuit wires are attached directly to circuit breaker load terminals

Circuit breakers (thermal magnetic):

- Are trip-free of the handles and cannot be held closed under short circuit or overload conditions
- · Four breaker types are used in panelboards manufactured by Eaton's Crouse-Hinds. They are as follows:
- Quicklag® used in LP, D2PB, EPL and D2L panelboards; 10,000 ampere symmetrical interrupting capacity

Ratings Fed. Spec.

Single and two-pole, W-C-375a, Class 1a 120 / 240 VAC Two and three-pole, W-C-375a, Class 1b 240 VAC

• EHD/FDB frame - used in EXD and D2D panelboards; 14,000 ampere symmetrical interrupting capacity - 480 VAC

Fed. Spec.

Ratings

Single-pole, 277 VAC W-C-375a, Class 2a or 125 VDC Two and three-pole

480 VAC or 250 VDC N/A

Wiring Systems:

- · See pages 628 and 629 for wiring diagrams. These are the standard systems used for single and three-phase panelboards having single, two and three-pole circuit breakers
- Standard panelboards are listed with all circuit breakers having the same number of poles and wired for one of these systems
- To meet the requirements of a specific installation, panelboards can be assembled with a combination of single, two and three-pole breakers. To accomplish this, the three individual wiring systems must have the same main service as, for example, 3-phase, 4-wire, solid neutral.

Panelboard Type

Applicable Wiring **Systems**

3, 4, 5, 8, 11, 12

· Diagrams show only four, six or eight circuits; are intended to show only the phase connections of each circuit breaker and do not necessarily show their physical location in a panelboard.

Panelboards are available with the number of circuits indicated in the listings.

Standard Materials, Finishes, Options and Compliances:

· See individual listing pages

Quicklag is a registered trademark of Cutler-Hammer Inc

Quick Selector Chart

Quick Selector Chart

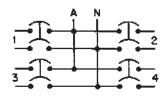
Panelboard	NEC & NEMA Certifications and Compliances	Factory Sealed	Number Circuits Max.	Breaker Frame Size	Multi-Pole Voltage Max.	Trip Rating Amps Max.	Circuit Interrupting Amps Max.	Step Down Transformer Available
D2D	Cl. I, Div. 2, Groups B, C, D NEMA: 3, 4, 7BCD, 12	Yes	42	Various	600VAC 250VDC	100	10,000	Yes
D2L	Cl. I, Div. 2, Groups B, C, D NEMA: 3, 4, 7BCD, 12	Yes	42	Quicklag®	240VAC 125VDC	100	10,000	Yes
D2PB	Cl. I, Div. 2, Groups C, D NEMA: 3, 7CD (Div. 2), 12	Yes	24	Quicklag®	240VAC	30	10,000	Yes
D2Z	Cl. I, Zone 1, Div. 2, Groups A, B, C, D NEMA: 3, 4X, 7ABCD (Div. 2), 12 Corrosion Resistant, Non-Metallic	Yes	54	CEAG	480VAC	180	10,000	No
EPL	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA: 3, 4, 7BCD, 9EFG, 12	Yes	42	Quicklag®	240VAC 125VDC	100	10,000	No
EXD	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA: 3, 4, 7BCD, 9EFG, 12	Yes	42	Various	600VAC 250VDC	100	10,000	No
GUSC	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA: 3, 7CD, 9EFG, 12	No	2	Quicklag®	240VAC	30	10,000	No
LP1	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA: 3, 4X, 7BCD, 9EFG, 12	Yes	36	Quicklag®	240VAC	100	10,000	No
LP2	Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 2, Groups F, G Cl. III NEMA: 3, 4X, 7BCD, 9EFG, 12	Yes	36	Quicklag®	240VAC	100	10,000	Yes
N2PB	Cl. I, Div. 2, Groups C, D Cl. II, Div. 2, Groups F, G NEMA: 3, 7CD, (Div. 2), 12 Corrosion Resistant, Non-Metallic	Yes	24	Quicklag®	240VAC	30	10,000	No
NLP	NEMA 3, 12	No	30	QO/Qwik-Guard®	240VAC	100	10,000	No
SPB	Class I, Zone 1 Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups E, F, G	Yes	60	Various	480VAC	40	10,000	No
XLPB	NEMA 1, 3, 3R, 4, 4X, 12	No	42	Various	600VAC	100	10,000	Yes

Quicklag is a registered trademark of Cutler-Hammer Inc. QO/Qwik-Guard is a registered trademark of Square D.

D2PB Panelboards

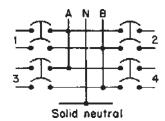
System 1

Mains—2-Wire Branches—2-Wire Breakers—2-Pole



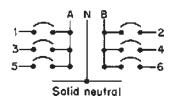
System 3

Mains—3-Wire Branches—3-Wire Breakers—2-Pole Solid Neutral



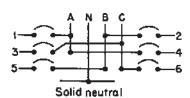
System 4

Mains—3-Wire
Branches—2-Wire
Breakers—Single-Pole
Solid Neutral



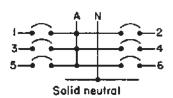
System 5

Mains—4-Wire, 3-Phase Branches—2-Wire, 1-Phase Breakers—Single-Pole Solid Neutral



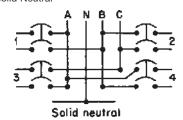
System 7

Mains—2-Wire
Branches—2-Wire
Breakers—Single-Pole
Solid Neutral



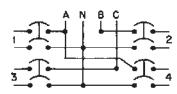
System 8

Mains—4-Wire, 3-Phase Branches—3-Wire, 1-Phase Breakers—2-Pole Solid Neutral



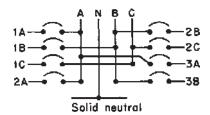
System 13

Mains—4-Wire, 3-Phase Branches—2-Wire, 1-Phase Breakers—2-Pole



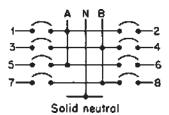
System 15

Mains—4-Wire, 3-Phase Branches—3-Wire, 1-Phase Breakers—Single-Pole Solid Neutral



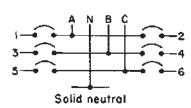
System 24

Mains—3-Wire
Branches—2-Wire
Breakers—Single-Pole
Solid Neutral



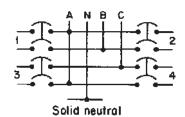
System 25

Mains—4-Wire, 3-Phase Branches—2-Wire, 1-Phase Breakers—Single-Pole Solid Neutral



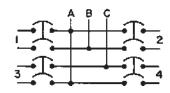
System 28

Mains—4-Wire, 3-Phase Branches—3-Wire, 1-Phase Breakers—2-Pole Solid Neutral



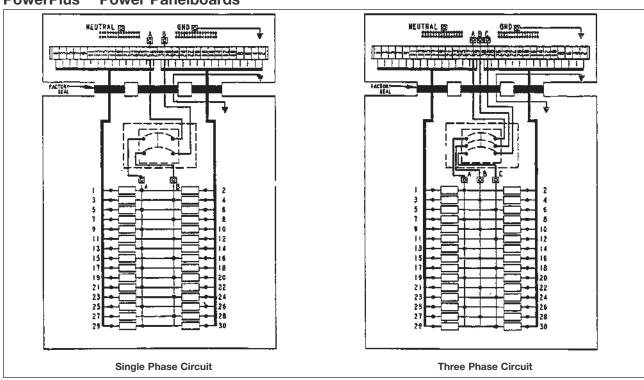
System 29

Mains—3-Wire, 3-Phase Branches—2-Wire, 1-Phase Breakers—2-Pole

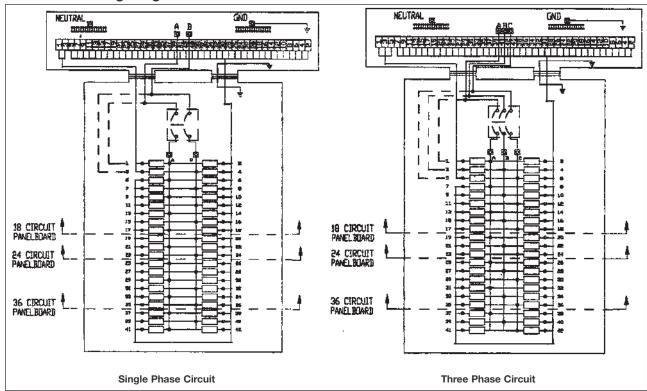


Wiring Diagrams

PowerPlus™ Power Panelboards



PowerPlus™ Lighting Panelboards



1A

Exactra™ Panelboards

Lighting and Heat Tracing LP1 Series LP2 Series (Div. 2)

Cl. I, Div. 1 & 2, Groups B+, C, D Cl. II, Div. 1, Groups Et, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4*, 4X§, 7B†CD, 9EFG, 12 Wet Locations

CSA Enc. 3, 4*, 5 Explosionproof **Dust-Ignitionproof** Factory Sealed‡ Watertight

Exactra™ Factory-Sealed Lighting Panelboards provide flexibility and labor savings when installed, and for future changes in the field. Panels are prewired to maximum circuit capacity and ratings.

Applications:

Exactra™ Factory-Sealed Lighting Panelboards are ideal:

- In areas made hazardous by the presence of flammable gases and vapors, and combustible dusts
- In areas subject to weather, dampness, and corrosion
- · For branch power distribution and circuit protection for motors, valves, pumps, lighting, heat tracing, receptacles, etc.
- · For indoor and outdoor applications in petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards
- In areas where flammable vapors or gases or highly combustible dusts may be present due to accidental or abnormal conditions
- To accommodate up to 35 amp branch

Features and Benefits:

- · Factory sealed, no external seals required for branch circuits. External seals are required for Class I, Div. 1 applications
- · Fully wired for circuit breaker housing to pre-numbered terminals in wiring compartment
- External flange design allows wide unobstructed cover opening for easy wiring access
- External circuit breaker handles can be padlocked "ON" or "OFF"
- Furnished with two 3" and ten 1½" conduit openings
- · Breather and drains available for each
- · Available with or without main circuit breaker up to 100 amps
- · Isolated neutral and ground bar provided
- Available with up to 6 GFI and/or EPD branch breakers per panel. GFI and EPD branch breakers available within the same panel
- · Available with ambient compensated breakers throughout panelboard
- · Stainless steel hinges allow the cover to swing wide open or be removed
- · Stainless steel hex head bolts captive design prevents lost bolts
- Cast copper-free (less than 0.4%) aluminum construction for excellent corrosion resistance
- Neoprene cover gasket meets NEMA 4 / CSA Enc. 4 / IP65 requirements, provides watertight seal for superior water and corrosion protection
- · Copper bus bar system

Certifications and **Compliances:**

LP1 panelboards

- Class I, Groups B, C, D
- Class I, Zone 1 & 2, IIB + H₂
- · Class II, Groups E, F, G
- Class III
- NEMA 3, 4*, 4X§, 7B†CD, 9E†FG, 12
- CSA Enc. 3, 4*, 5
- IP65* Enclosure
- UL Classified (Standard 1203)
- · cUL Classified (Certified by UL to CSA C22.2 No. 30)

LP2 Panelboards

- Class I, Division 2, Groups B†, C, D
- Class I, Zone 1 & 2, IIB + H₂
- · Class II, Division 2, Groups F, G
- Class III
- NEMA 3, 4*, 4X§, 7BCD (Div 2), 9EFG, 12
- CSA Enc. 3, 4*, 5
- IP65* Enclosure
- UL Classified (Standard 1203)
- · cUL Classified (Certified by UL to CSA C22.2 No. 30)

Standard Materials:

- Body and cover cast copper-free aluminum
- Gasket neoprene
- Operating handles extruded aluminum
- Operating shafts, cover bolts, washers, GFI/EPD plungers and hinges – stainless
- · Circuit breaker operator forks
 - for 1 pole standard breakers die-cast aluminum (copper-free)
- for 1 and 2 pole GFI / EPD breakers die-cast aluminum (copper-free)
- for 2 and 3 pole standard breakers stainless steel
- · Lifting bracket cold rolled steel
- Bus bar copper

Standard Finishes:

- Aluminum natural
- · Stainless steel natural
- Cold rolled steel electrogalvanized
- * NEMA 4/CSA Enc. 4/IP65 hosetight with breather and drain openings plugged. † With suffix -GB.
- ‡ External seals required for Class I, Div. 1. § NEMA 4X when ordered with suffix S752 with breather and drain openings plugged.



LP1 Lighting Panelboard

Exactra™ Panelboards

Lighting and Heat Tracing LP1 Series LP2 Series (Div. 2)

Cl. I, Div. 1 & 2, Groups B+, C, D Cl. II, Div. 1, Groups Et, F, G Cl. II, Div. 2, Groups F, G NEMA 3, 4*, 4X§, 7B+CD, 9EFG, 12

Suffix

Α

GB

LID

SID

Options:

Description

bottom

· Alternate feed: incoming power into terminal enclosure from

Group B and E suitability

customer-specified panel identification

customer-specified panel

identification

Internal and external epoxy

External epoxy powder

Stainless steel nameplate with

125W@120 VAC, 250W@240 VAC

powder coat finish \$753 • One breather and two drains per

square headed plugs \$872 • To order an inverted panelboard with all conduit openings for

internal space heater in circuit breaker enclosure R22

All conduit entries plugged with

PLG recessed head plugs All conduit entries plugged with

power and branch circuits on the bottom (inverted)

CSA Enc. 3, 4*, 5 Explosionproof **Dust-Ignitionproof** Factory Sealed‡ Wet Locations Watertight

1A

Electrical Ratings:

Branch Breaker (120 / 240 VAC
Quicklag® Bolt On) Trip Ratings

- 1, 2, 3 pole
- 10, 15, 20, 25, 30, 35 amp
- GFI type 1, 2-pole (5 mA sensitivity) 15, 20, 25, 30 amp
- EPD type 1, 2-pole (30 mA sensitivity) 15, 20, 25, 30 amp

Main Breaker Trip Ratings:

- Size B & C
- 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100 amp

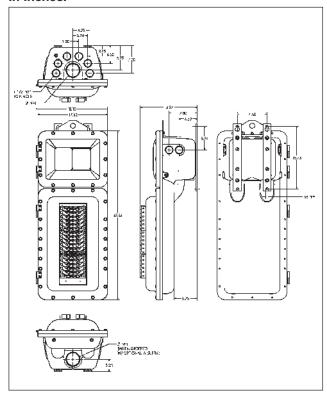
2, 3-pole

Main Lugs • Size B & C 100 amp

Weight

• 150 lbs.

Dimensions In Inches:



* NEMA 4/CSA Enc. 4/IP65 hosetight with breather and drain openings plugged.

External seals required for Class I. Div. 1.

§ NEMA 4X when ordered with suffix S752 with breather and drain openings plugged.

Quicklag® is a registered trademark of Cutler-Hammer Inc.

Breaker Options:

Description	Suffix
 EPD branch breaker (up to 6 EPD and/or GFI per panel) GFI branch breaker (up to 6 EPD 	E
and/or GFI per panel)	G
 Ambient compensated (50°C) breakers throughout panelboard HID branch breaker for lighting 	V
loads	Н

Lighting Panelboard

	ccessories:	
D	escription	Cat. #
•	Extra circuit breaker operator assemblies 1-pole (qty. 3) Replacement cover plugs for	LP K1
	unused circuit breaker positions (qty. 6)	LP K2
•	assemblies for 1 pole and 2 pole GFI/EPD breakers (qty. 3) GFI/EPD "push to test" plungers	LP K3
•	(qty. 6)	LP K4 LP K5
•	(qty. 2) Extra circuit breaker operator	LP K6
	assembies for 2 pole standard and GFI/EPD breakers	LP K7
•	assembles for 3 pole breakers	LP K8

Panel Capacity:

Max. No. of Branch Spaces					w/GFI,	
Panel Size	With Main Lug Only	With Main 2-pole	Breaker 3-pole	Main Breaker Max. Amp	EPD Branch Protection	
B C	24 36	22 34	21 33	100 100	Yes Yes	



1A Exactra[™] Panelboards

Lighting and Heat Tracing LP1 Series LP2 Series (Div. 2) Cl. I, Div. 1 & 2, Groups B†, C, D Cl. II, Div. 1, Groups E†, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 4*, 4X§, 7B†CD, 9EFG, 12 CSA Enc. 3, 4*, 5 Explosionproof Dust-Ignitionproof Factory Sealed‡ Wet Locations Watertight

Ordering Information LP1 & LP2 Factory Sealed 120 / 240 Volt Lighting Panelboards

Branch	Division 1		Divis	ion 2
Spaces Needed	1 Phase 3 Wire	3 Phase 4 Wire	1 Phase 3 Wire	3 Phase 4 Wire
6	LP1B106	LP1B306	LP2B106	LP2B306
8	LP1B108	LP1B308	LP2B108	LP2B308
10	LP1B110	LP1B310	LP2B110	LP2B310
12	LP1B112	LP1B312	LP2B112	LP2B312
14	LP1B114	LP1B314	LP2B114	LP2B314
16	LP1B116	LP1B316	LP2B116	LP2B316
18	LP1B118	LP1B318	LP2B118	LP2B318
20	LP1B120	LP1B320	LP2B120	LP2B320
20	LP1C120	LP1C320	LP2C120	LP2C320
22	LP1B122	LP1B322	LP2B122	LP2B322
22	LP1C122	LP1C322	LP2C122	LP2C322
24†	LP1B124†	LP1B324†	LP2B124†	LP2B324†
24	LP1C124	LP1C324	LP2C124	LP2C324
26	LP1C126	LP1C326	LP2C126	LP2C326
28	LP1C128	LP1C328	LP2C128	LP2C328
30	LP1C130	LP1C330	LP2C130	LP2C330
32	LP1C132	LP1C332	LP2C132	LP2C332
34	LP1C134	LP1C334	LP2C134	LP2C334
36†	LP1C136†	LP1C336†	LP2C136†	LP2C336†
Breaker Ready■	LP1B100	LP1B300	LP2B100	LP2B300
(Empty)	LP1C100	LP1C300	LP2C100	LP2C300

† Items are not available with main circuit breaker.

■ Provided for main lug only; main breaker must be specified with amperage.

Catalog Number Example:

Lighting Panelboards can be furnished with an assortment of breaker ratings and pole configurations. Assortments may be ordered by adding the number of poles and amp rating designations to the catalog number.

Example:

A three-phase, Class I, Div. 2, Groups C, D lighting panelboard with:

- 5 three-pole breakers with 15 amp rating
- 6 single-pole breakers with 20 amp GFI personnel protection
- Three-pole main breaker with 100 amp rating
- Alternate feed option
- · Breather and drain option

- 1. Select basic panelboard catalog number from listing:
 - Determine phase (available with single-phase or three-phase wiring).
 - Determine a total even number of breaker spaces needed to complete your desired lighting panelboard.

Note:

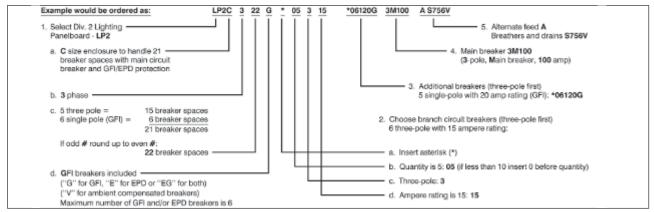
- 3 breaker spaces = Three-pole breaker
- 2 breaker spaces = Two-pole breaker
- 2 breaker spaces = Two-pole GFI (or EPD) breaker
- 1 breaker space = Single-pole breaker
- 1 breaker space = Single-pole GFI (or EPD) breaker
- Review Panel Capacity table see page 631
- If GFI or EPD breakers are to be included insert "G", "E" or "EG" after base catalog number (e.g., LP2B316G).
- Maximum number of GFI and/or EPD breaker spaces is 6 per panel. (e.g. 6 single-pole or 3 two-pole).
 For more, consult factory.
- If ambient compensated breakers are required, insert "V" (e.g. LP2B318GV).
- Using three-pole branch breakers first, select circuit breakers for lighting panel board application:
 - Place an asterisk (*) before each quantity of circuit breakers
 - First insert the quantity of breakers needed.
 - Second insert the quantity of poles (start with three-pole breakers).

Note: Single-phase panelboards can have single- or two-pole breakers. Three-phase panelboards can have single, two- or three-pole breakers.

- Third insert the ampere rating needed (start with highest ampere rating).
- Insert "G" for GFI or "E" for EPD type breakers, if desired.
- For additional circuit breakers repeat step 2. If there are more three-poles with different amp ratings, then continue with threepole designations. Otherwise continue with two-pole circuit breakers, and then single-pole breakers.
- 4. To add a main breaker, insert a space, the number of poles (2 or 3), an "M" to indicate main breaker, then indicate the amp rating (See "ratings" for trip ratings available). If no main breaker is specified, the panelboard will have main lugs. No suffix needed in catalog number for main lug only.

For future spaces, to provide for operating mechanism without breaker write 00 (e.g. one three-pole mechanism without breaker: 01300).

Unused breaker positions without designations will be blanked and plugged. Complete panel will be provided for future breaker installations.



^{*} NEMA 4/CSA Enc. 4/IP65 hosetight without suffix S756V.

‡ External seals required for Class I, Div. 1.

†With suffix -GB.

[§] NEMA 4X when ordered with suffix S752 without suffix S756V

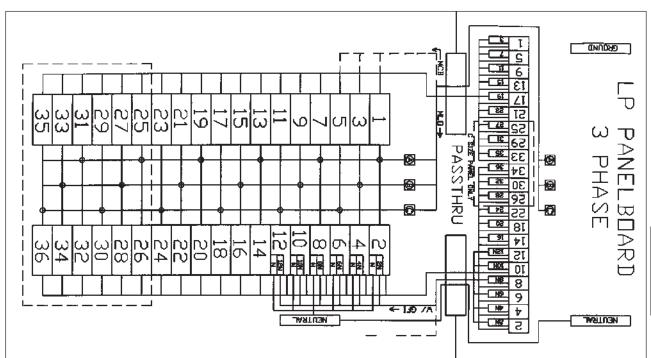
Exactra™ Panelboards

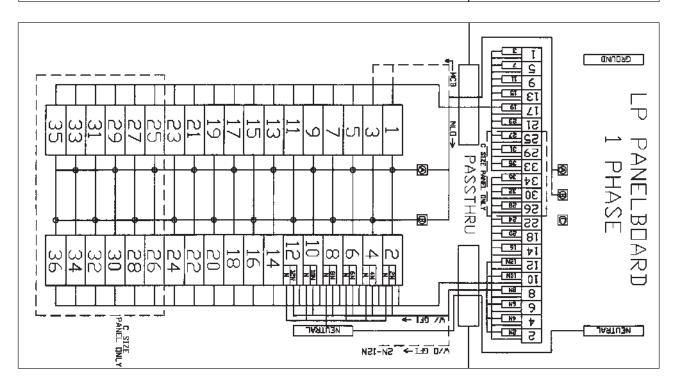
Lighting and Heat Tracing LP1 Series LP2 Series (Div. 2)

Cl. I, Div. 1 & 2, Groups B†, C, D Cl. II, Div. 1, Groups Et, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4*, 4X§, 7B†CD, 9EFG, 12

CSA Enc. 3, 4*, 5 Explosionproof **Dust-Ignitionproof** Factory Sealed‡ Wet Locations Watertight

Wiring Diagrams:





- * NEMA 4/CSA Enc. 4/IP65 hosetight without suffix S756V. ‡ External seals required for Class I, Div. 1. § NEMA 4X when ordered with suffix S752 without suffix S756V. †With suffix -GB.

Crouse-Hinds by **F**:**T·N**

Lighting and Heat Tracing EPL Series (Div. 1 & 2) D2L Series (Div. 2)

EPL Series: Cl. I, Div. 1 & 2, Groups B \dagger , C, D Cl. I, Zone 1 & 2, IIB + H₂ \dagger Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

D2L Series:
Cl. I, Div. 2, Groups B†, C, D
Cl. I, Zone 2, IIB + H₂†
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA/FEMAC: 3, 4, 4X†, 7B†CD, 13

CI. III NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 9EFG, 12 NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 9EFG, 12

PowerPlus[™] Series Panelboards provide both premium factory-sealed and value non-factory-sealed solutions for the protection and distribution of lighting, power, and heat tracing circuits. This panel solution is designed, engineered, and manufactured to be the industry's safest and most dependable panelboard for hazardous area locations.

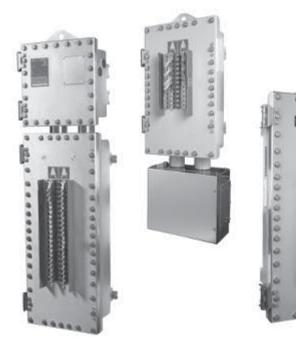
PowerPlus Premium and Value Solutions

- Premium Solution: PowerPlus <u>factory-sealed</u> panelboards are premium panelboards that provide maximum circuit flexibility with labor savings during installation, operation, and maintenance, and are accommodating for future changes in the field (order with either "S" or "A" in base part number). Panels are pre-wired to maximum circuit capacity, allowing for easy and safe replacement or installation of components in the field, while maintaining factory-sealed integrity.
- Value Solution: PowerPlus non-factorysealed panelboards are value panelboards that offer maximum circuit flexibility and many of the same features and benefits of the PowerPlus premium line. This value solution is provided without terminal housing and factory wiring of circuits (order with "N" in base part number). The non-factory-sealed solution reduces initial panelboard material costs and requires field wiring to circuit breakers and external seals to be field-installed during installation.

Applications:

EPL and D2L PowerPlus[™] panelboards are used:

- In areas made hazardous by the continuous or abnormal presence of flammable gases, vapors, and combustible dusts
- In areas subject to weather, dampness, and corrosion
- For branch power distribution and circuit protection to motors, valves, pumps, lighting, heat tracing, receptacles, etc.
- For indoor and outdoor applications in petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards exist
- To accommodate up to 100 amp branch loads (only 3 circuits), balance is up to 50 amps



Certifications and Compliances:

EPL Series:

NEC/CEC:

Class I, Division 1 & 2, Groups B†, C, D Class I, Zone 1 & 2, IIB + H_2 † Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 9EFG, 12
- CSA Enc. 3, 4, 5
- UL Standard: 67, 1203
- cUL (to CSA Standard C22.2 Nos. 29 & 30)
- IP65

D2L Series (Division 2):

• NEC/CEC:

Class I, Division 2, Groups B†, C, D Class I, Zone 2, IIB + H₂† Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12
- CSA Enc. 3, 4, 5
- UL Standard: 67, 1203
- cUL (to CSA Standard C22.2 Nos. 29 & 30)
- IP65

Standard Materials and Finishes:

- Circuit breaker enclosure body and cover – copper-free aluminum
- Terminal housing type 316L stainless steel ("S") or copper-free aluminum ("A")
- Gasket neoprene (cast aluminum enclosure); foam-in-place (stainless steel enclosure)
- Operating handles copper-free aluminum
- Operating shafts and bushings, cover bolts, washers, hinges, breather/drain, retractile springs – stainless steel
- Circuit breaker operators non-metallic
- Lifting bracket electrogalvanized cold rolled steel
- Chassis silver-plated copper
- Breather cap Delrin® non-metallic material
- Neutral and ground bar tin-plated aluminum

† Group B and IIB + H_z is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.

‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

Delrin® is a registered trademark of DuPont.

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PowerPlus™ Panelboards

Lighting and Heat Tracing EPL Series (Div. 1 & 2) D2L Series (Div. 2)

EPL Series: Cl. I, Div. 1 & 2, Groups B+, C, D Cl. I, Zone 1 & 2, IIB + H₂† Cl. II, Div. 1, Groups E, F, G

Cl. II, Div. 2, Groups F, G

Cl. III

CI. I, Div. 2, Groups B+, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G

Cl. III

D2L Series:

NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12 NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12



This corrosion-resistant Type 4X breather and drain comes standard with all PowerPlus panelboards. This permits all models to maintain their Type 4 (Type 4X with suffix S752) rating while utilizing a breather/drain solution to drain internal condensation while protecting against ingress of rain and hose water.

PowerPlus D2L and EPL panels are available with GFI and/or EPD breakers. This 21-position electrical test circuit allows for testing of GFI, EPD, or a combination of both in one panel. EPLDN panels are available with up to 42 GFI or EPD circuits with 225 amp main breaker.

PowerPlus panels come standard with a high-quality silver-plated copper buss system. This provides highefficiency current flow between the main feed and branch breakers.





Each branch and main breaker handle is provided with lockout/tagout capability, which complies with OSHA lockout/tagout requirements for safety. This allows for locking in the ON or OFF position for standard maintenance checks.

Spring-loaded, quick-release, captive stainless steel cover bolts come standard. This design prevents damage to the flat joint flame path when opening and closing the cover while providing visual identification of bolt engagement.



PowerPlus panels are available with an optional hinged stainless steel ice/dust shield. This ice shield solution prevents ice and snow build-up on breaker handles to allow for proper handle function in cold/wet climate applications.

Stainless steel hinges are engineered to provide maximum stability and allow the cover to swing fully open. This avoids misalignment of cover to the body of the enclosure and prevents the cover from obstructing interior access.



Please contact factory if required.

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.
‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

1A PowerPlus™ Panelboards

Lighting and Heat Tracing EPL Series (Div. 1 & 2) D2L Series (Div. 2)

Integrated steel lifting eye is mounted on

the top side of each PowerPlus panel.

ensure ease of mounting during the

installation process.

This provides a stable lifting position to

EPL Series: Cl. I, Div. 1 & 2, Groups B \dagger , C, D Cl. I, Zone 1 & 2, IIB + H₂ \dagger Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

CI. III

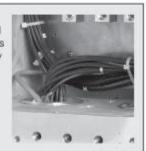
NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

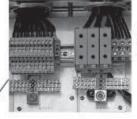
D2L Series: Cl. I, Div. 2, Groups B†, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G Cl. III NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

PowerPlus cast enclosures are manufactured with an external flange design. This design allows for a wide unobstructed cover opening and provides a completely accessible interior for ease of maintenance and wiring.

Superior self-aligning breaker operators are designed for both field and factory installation. This patent-pending design guarantees proper handle alignment when closing the cover.

All panels with terminal housings are factory-sealed†† and fully wired for maximum available circuits. This allows PowerPlus models the ability to have additional breakers field-installed while maintaining their factory seal.





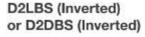
All terminal blocks come fully wired with each contact numbered for easy connecting of branch entries.

Heavy gauge 316L stainless steel terminal housings are supplied with three removable gland plates to be used with Myers* Hubs. This design allows for the flexibility of factory- or field-drilled openings for hubs.

PowerPlus panelboards offer an industrial grade 316L stainless steel terminal housing as standard. This design offers an increased internal volume with a removable front cover for easy access during field installation and maintenance. A cast aluminum terminal housing is standard on EPL and EXD panels and available on D2L and D2D panels.



Stainless steel terminal housings offer a high-integrity gasket, providing a watertight seal to meet enclosure Type 4/CSA ENC. 4/IP65 requirements. This provides superior protection of enclosed wiring against water and corrosion. Cast aluminum enclosures are also gasketed, providing a NEMA 4 watertight seal.



 Not available in Size F offering. Spring aligning forks are standard on Size F panels.

http://discountry.com/files/fi

† Group B and IIB + Hz is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.

\$\frac{1}{2}\$ NEMA 4X rating is available when ordered with suffix S752 or S753.

1Δ

PowerPlus™ Panelboards

Lighting and Heat Tracing EPL Series (Div. 1 & 2) D2L Series (Div. 2)

EPL Series: Cl. I, Div. 1 & 2, Groups Bt, C, D Cl. I, Zone 1 & 2, IIB + H₂† Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

D2L Series: Cl. I, Div. 2, Groups B+, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G

NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12 NEMA/EEMAC 3, 4, 4X±, 7B+CD, 9EFG, 12

Electrical Ratings:

Branch Breakers (120/240VAC Quicklag® Bolt-On) **Trip Ratings:**

- 1-, 2-, and 3-pole
- 10, 15, 20, 25, 30, 35, 40, 45, 50 amp (available in all breaker spaces in panel), 55, 60, 70, 80, 90, 100 amp (only 3 breaker spaces available for 55 to 100 amp branch breakers)
- GFI type, 1- and 2-pole (5mA sensitivity) 15, 20, 25, 30, 40 (50 amp - available 2-pole only)
- EPD type, 1- and 2-pole (30mA sensitivity) 15, 20, 25, 30, 40 (50 amp - available 2-pole only)
- HID type, 1- and 2-pole, 15, 20, 25, 30, 35, 40, 50, 60
- Available with GFI, EPD, or a combination of both in one panel with a 21-position electrical test circuit
- Ambient compensated breakers available to +50°C

Main Breaker Trip Ratings:

- 2- or 3-pole
- Size B: 10 to 100 amps
- Size C and D: 10 to 225 amps

Main Lugs:

- Size B, C, and F: 225 amps
- Size D: not available; main breaker only

Options:

To add the following features to the panelboard, add a dash and then the suffix to the Cat. No. When multiple suffixes are needed, add them to the Cat. No. in alpha-numeric order.

Description	Suffix
Space heater	. R22
Square head plugs on all conduit openings	. SP
Epoxy powder coat finish, external	. S752
Epoxy powder coat finish, internal and external	. S 753
Recess head plugs on all conduit openings	. RP
Stainless steel breaker operator cover (ice shield)	. HG
Group B kit factory installed	. GB
GFI breakers	. G
EPD breakers	. Е
HID breakers	. н
Ambient compensated breakers (50°C)	. V
Lamacoid Nameplate	. LID

A standard panelboard has conduit openings for power and branch circuits on top.

To order a panelboard with main power feed from the bottom of breaker housing, and branch entries on top (alternate)	-A**
To order an inverted panelboard with all conduit openings for power and branch circuits on the bottom (inverted)	-1
To order an inverted panelboard with main power feed on top and bottom (alternate inverted)	A-I**

Accessories:

Gland Plates

Field installable gland plates with factory-provided aluminum Myers™ Hubs for the D2L stainless steel terminal housing (one 3-inch hub and 12 branch entry hubs - size dependent upon suffix, each kit includes 3 gland plates, 1 for the top or bottom and 1 for each side):

,	Part Number
3/4" branch entry hub	D2L HUB2 KIT
1" branch entry hub	D2L HUB3 KIT
1 1/2" branch entry hub	D2L HUB5 KIT
Replacement gland plate (no hubs)	D2L HUB0 KIT

Circuit Breaker Operator Assemblies:

Operator Assemblies	Part Number
D2L/EPL 1-pole or 3-pole breakers	EPL HDL13
D2L/EPL 2-pole breakers	FPI HDI 2

Replacement Cover Plugs:

For unused circuit breaker positions (qty. 5):	
Plug Kits	Part Number
D2L/EPL Sizes B, C, D	EPL OP PLG

Kit for Group B

Standard panels less -GB suffix are applicable for Group B, but it is required to install brackets on breakers.

Part Number To order brackets factory installed add suffix -GB For field installable kit **EPL GB KIT**

D2L/EPL Stainless Steel Breaker Operator Cover

To protect operators from ice build-up for all	Part Number
D2L/EPL PowerPlus panels:	
Kit for Size B panel	EPL-HG24-KIT
Kit for Size C and D panel	EPL HG42-KIT

Space Heater Kit

D2L/EPL PowerPlus Panels	EPL R22 KIT

Terminal Housing Mounting Plate Kit:

To adapt depth of terminal housing to same depth as breaker enclosure ***

Panel Types / Sizes	Part Number	Terminal Housing
D2L/EPL Sizes B, C, D	EPLA-MTG-KIT	Aluminum
D2L Sizes B, C, D	D2LS-MTG-KIT	Stainless

Group B and IIB + Hz is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately,

Not available in D2L/EPL Size D panels.

*** Not available in D2L/EPL Size D panels.

*** The weight of the panel is sufficiently supported by mounting of breaker enclosure.

1A PowerPlus™ Panelboards

Lighting and Heat Tracing EPL Series (Div. 1 & 2) D2L Series (Div. 2) EPL Series:
CI. I, Div. 1 & 2, Groups B†, C, D
CI. I, Zone 1 & 2, IIB + H2†
CI. II, Div. 1, Groups E, F, G
CI. II, Div. 2, Groups F, G
CI. III

NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

D2L Series: Cl. I, Div. 2, Groups B†, C, D Cl. I, Zone 2, $IIB + H_2$ † Cl. II, Div. 2, Groups F, G Cl. III NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

Load Wires Required

Table A - Panel Capacity

Maximum Number of Breaker Spaces:

	Max. No. of Bra	nch Circuit Break	er Spaces	Available Main	Available	
Panel	With Main	With N	/lain Breaker	Breaker	With GFI, EPD	
Size	Lug Only	2-pole	3-pole	Ampacity	Branch Protection	
В	24	22	21	Up to 100 ■	Yes	
C§	42	40	39	Up to 100■	Yes	
-3		36	36	110 to 225 ≎	Yes	
D	42	42	42	Up to 225 ⊙	Yes	

Table B – To Size Panels with GFI or EPD Branch Breakers

Maximum Number of GFI or EPD Breakers

Panel Size with Main Lug		_
or Main Breaker	Single- Pole	Two- Pole
Dieakei	Fole	role
		12
В	21	(10 with 3-pole MCB,
		11 with 2-pole MCB)
С	21	14
	EPLDN only - can go up	to 42 GFI or EPD circuits.
D	EPLDN will accommoda	te up to 225 amp main
	breaker.	

Each factory-sealed panel is equipped with 42 load wires for GFI/EPD breakers and any combination with standard branch breakers. Determine the total number of load wires required to complete your panel. You may not exceed 42 load wires.

Single-pole breaker	1
Single-pole GFI (or EPD) breaker	2
Two-pole breaker	2
Two-pole GFI (or EPD) breaker	3
Three-pole breaker	3
•	Maximum Total: 42 load
	wires (factory sealed)
EPLDN Panels	Maximum Total: <u>84</u> load wires (non-factory sealed)

[†] Group B and IIB + H₂ is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately. ‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

All size B and size C panels with main breaker rated up to 100 amps use a back-fed branch breaker. All size D and size C panels with main breaker rated from 110 amps to 225 amps have a dedicated location for main breaker. Size C ordered with suffix 2M00 or 3M00 are provided with 36 branch circuits for maximum breaker ampacity.

Main breakers are mounted external to chassis.
 Main breakers are chassis mounted and back-fed.

PowerPlus[™] Panelboards

Lighting and Heat Tracing EPL Series (Div. 1 & 2) D2L Series (Div. 2) EPL Series:
Cl. I, Div. 1 & 2, Groups B†, C, D
Cl. I, Zone 1 & 2, IIB + H₂†
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

D2L Series:
CI. I, Div. 2, Groups B†, C, D
CI. I, Zone 2, IIB + H₂†
CI. II, Div. 2, Groups F, G
CI. III
NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

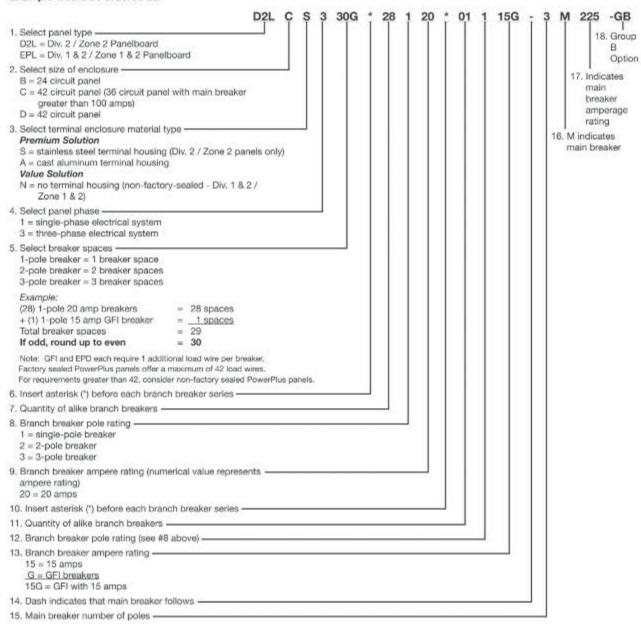
Lighting Panelboard Catalog Number Example

Example:

Class I, Division 2 / Zone 2, Group B panel with:

- · 240VAC lighting panelboard
- (28) single-pole 20 amp branch breakers
- (1) single-pole 15 amp branch GFI breaker
- 225 amp 3-pole main circuit breaker

Example would be ordered as:



† Group B and IIB + H₂ is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately. ‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

Lighting and Heat Tracing EPL Series (Div. 1 & 2) D2L Series (Div. 2) EPL Series: Cl. I, Div. 1 & 2, Groups B \uparrow , C, D Cl. I, Zone 1 & 2, IIB + H $_2$ \uparrow Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

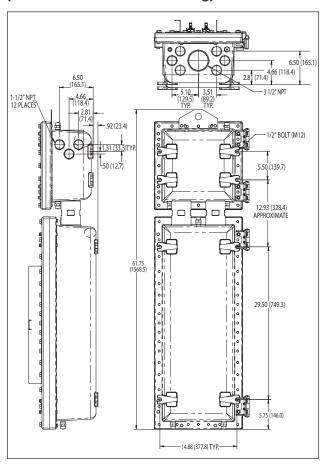
D2L Series: Cl. I, Div. 2, Groups B†, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G Cl. III NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

CI. III NEMA/EEMAC: 3, 4, 4X‡, 7B† NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

Dimensions Size B Panel* (With Stainless Steel Terminal Housing)

11.52 (292.6) APPROXIMATE 17.50 (444.5) 17.50 (444.5) 17.50 (444.5) 17.50 (444.5)

Size C and D Panel* (With Cast Terminal Housing)



[†] Group B and IIB + Hz is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers.

To order with brackets installed at factory, add suffix -GB. For field installable kit, order EPL-GB-KIT separately.
‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

^{*}Stainless steel and cast aluminum terminal housing for Sizes B, C, and D are the same. Note: Value series non-factory-sealed EPL*N panel dimensions are the breaker housing only and use standard entries shown on cast terminal housing.

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PowerPlus™ Panelboards

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2)

PowerPlus™ Series Panelboards provide both premium factory-sealed and value non-factory-sealed solutions for the protection and distribution of lighting, power, and heat tracing circuits. This panel solution is designed, engineered, and manufactured to be the industry's safest and most dependable panelboard for hazardous area locations.

PowerPlus Premium and Value Solutions

- Premium Solution: PowerPlus factorysealed panelboards are premium panelboards that provide maximum circuit flexibility with labor savings during installation, operation, and maintenance, and are accommodating for future changes in the field (order with either "S" or "A" in base part number). Panels are pre-wired to maximum circuit capacity, allowing for easy and safe replacement or installation of components in the field, while maintaining factory-sealed integrity.
- Value Solution: PowerPlus non-factorysealed panelboards are value panelboards that offer maximum circuit flexibility and many of the same features and benefits of the PowerPlus premium line. This value solution is provided without terminal housing and factory wiring of circuits (order with "N" in base part number). The non-factory-sealed solution reduces initial panelboard material costs and requires field wiring to circuit breakers and external seals to be field-installed during installation.

Applications:

EXD and D2D PowerPlus™ panelboards are used:

- In areas made hazardous by the continuous or abnormal presence of flammable gases, vapors, and combustible dusts
- In areas subject to weather, dampness, and corrosion
- For branch power distribution and circuit protection to motors, valves, pumps, lighting, heat tracing, receptacles, etc.
- For indoor and outdoor applications in petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards exist
- To accommodate up to 100 amp branch loads (only 3 circuits), balance is up to 50 amps

EXD Series: Cl. I, Div. 1 & 2, Groups B†, C, D Cl. I, Zone 1 & 2, $IIB + IH_2$ † Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

D2D Series: Cl. I, Div. 2, Groups B \dagger , C, D Cl. I, Zone 2, IIB + H $_2$ \dagger Cl. II, Div. 2, Groups F, G Cl. III

NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

Certifications and Compliances:

EXD Series:

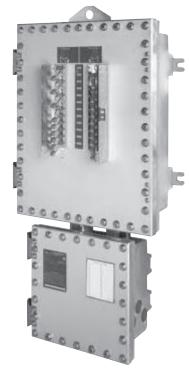
- NEC/CEC:
 - Class I, Division 1 & 2, Groups B†, C, D Class I, Zone 1 & 2, IIB + H_2 † Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III
- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 9EFG, 12
- CSA Enc. 3, 4, 5
- UL Standard: 67, 1203
- cUL (to CSA Standard C22.2 Nos. 29 & 30)
- IP65

D2D Series (Division 2):

- NFC/CFC:
 - Class I, Division 2, Groups B \dagger , C, D Class I, Zone 2, IIB + H $_2\dagger$ Class II, Division 2, Groups F, G Class III
- NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12
- CSA Enc. 3. 4. 5
- UL Standard: 67, 1203
- cUL (to CSA Standard C22.2 Nos. 29 & 30)
- IP65

Standard Materials and Finishes:

- Circuit breaker enclosure body and cover – copper-free aluminum
- Terminal housing type 316L stainless steel ("S") or copper-free aluminum ("A")
- Gasket neoprene (cast aluminum enclosure); foam-in-place (stainless steel enclosure)
- Operating handles copper-free aluminum
- Operating shafts and bushings, cover bolts, washers, hinges, breather/drain, retractile springs – stainless steel
- Circuit breaker operators EXD/D2D Size F: copper-free aluminum; all other types: non-metallic
- Lifting bracket electrogalvanized cold rolled steel
- Chassis silver-plated copper
- Breather cap Delrin® non-metallic material
- Neutral and ground bar tin-plated aluminum



†Group B and IIB + H₂ is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for Sizes B, C, and D separately. ‡NEMA 4X rating is available when ordered with suffix S752 or S753. Delin® is a registered trademark of DuPont.

1A PowerPlus[™] Panelboards

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2) EXD Series: Cl. I, Div. 1 & 2, Groups B \dagger , C, D Cl. I, Zone 1 & 2, IIB + H₂ \dagger Cl. II, Div. 1, Groups F, G Cl. II, Div. 2, Groups F, G Cl. III

D2D Series: Cl. I, Div. 2, Groups B \dagger , C, D Cl. I, Zone 2, IIB + H₂ \dagger Cl. II, Div. 2, Groups F, G Cl. III

NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

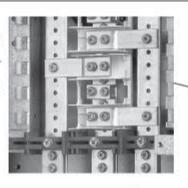
NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12



This corrosion-resistant Type 4X breather and drain comes standard with all PowerPlus panelboards. This permits all models to maintain their Type 4 (Type 4X with suffix S752) rating while utilizing a breather/drain solution to drain internal condensation while protecting against ingress of rain and hose water.

PowerPlus D2L and EPL panels are available with GFI and/or EPD breakers. This 21-position electrical test circuit allows for testing of GFI, EPD, or a combination of both in one panel. EPLDN panels are available with up to 42 GFI or EPD circuits with 225 amp main breaker.

PowerPlus panels come standard with a high-quality silver-plated copper buss system. This provides highefficiency current flow between the main feed and branch breakers.





Each branch and main breaker handle is provided with lockout/tagout capability, which complies with OSHA lockout/tagout requirements for safety. This allows for locking in the ON or OFF position for standard maintenance checks.

Spring-loaded, quick-release, captive stainless steel cover bolts come standard. This design prevents damage to the flat joint — flame path when opening and closing the cover while providing visual identification of bolt engagement.



PowerPlus panels are available with an optional hinged stainless steel ice/dust shield. This ice shield solution prevents ice and snow build-up on breaker handles to allow for proper handle function in cold/wet climate applications.

Stainless steel hinges are engineered to provide maximum stability and allow the cover to swing fully open. This avoids misalignment of cover to the body of the enclosure and prevents the cover from obstructing interior access.



'Note: D2D / EXD panels are not available with GFI or EPD circuit breakers or electrical test circuit as standard. Please contact factory if required.

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately.

\$\frac{1}{2}\$ NEMA 4X rating is available when ordered with suffix S752 or S753.

PowerPlus™ Panelboards

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2) EXD Series: Cl. I, Div. 1 & 2, Groups B \dagger , C, D Cl. I, Zone 1 & 2, IIB + H₂ \dagger Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

D2D Series: Cl. I, Div. 2, Groups B \dagger , C, D Cl. I, Zone 2, IIB + $H_2\dagger$ Cl. II, Div. 2, Groups F, G Cl. III

NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

1A

NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

Integrated steel lifting eye is mounted on the top side of each PowerPlus panel. This provides a stable lifting position to ensure ease of mounting during the installation process.

PowerPlus cast enclosures are manufactured with an external flange design. This design allows for a wide unobstructed cover opening and provides a completely accessible interior for ease of maintenance and wiring.

Superior self-aligning breaker operators are designed for both field and factory installation. This patent-pending design guarantees proper handle alignment when closing the cover.*

All panels with terminal housings are factory-sealed†† and fully wired for maximum available circuits. This allows PowerPlus models the ability to have additional breakers field-installed while maintaining their factory seal.





All terminal blocks come fully wired with each contact numbered for easy connecting of branch entries.

Heavy gauge 316L stainless steel terminal housings are supplied with three removable gland plates to be used with Myers[®] Hubs. This design allows for the flexibility of factory- or field-drilled openings for hubs.

PowerPlus panelboards offer an industrial grade 316L stainless steel terminal housing as standard. This design offers an increased internal volume with a removable front cover for easy access during field installation and maintenance. A cast aluminum terminal housing is standard on EPL and EXD panels and available on D2L and D2D panels.



Stainless steel terminal housings offer a high-integrity gasket, providing a watertight seal to meet enclosure Type 4/CSA ENC. 4/IP65 requirements. This provides superior protection of enclosed wiring against water and corrosion. Cast aluminum enclosures are also gasketed, providing a NEMA 4 watertight seal.

D2LBS (Inverted) or D2DBS (Inverted)

*Not available in Size F offering. Spring aligning forks are standard on Size F panels.

TEPL"A and EXD"A conduit entries 2" or larger in Class I, Division 1 must be sealed within 18" of enclosure. All alternate feed entries to breaker housing (suffix A) must have an external seal within 18" of enclosure.

† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately. ‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

14 **PowerPlus[™] Panelboards**

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2)

EXD Series: Cl. I, Div. 1 & 2, Groups B+, C, D Cl. I, Zone 1 & 2, IIB + H₂† Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA/EEMAC 3, 4, 4X[±], 7B⁺CD, 9EFG, 12

D2D Series: Cl. I, Div. 2, Groups B†, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G CI. III NEMA/EEMAC: 3, 4, 4X±, 7B†CD, 12

Electrical Ratings:

Branch Breakers Trip Ratings:

Panel Size	Voltage	Phase / Wire	Main Breaker Amperage	Branch Breaker
В	480Y/277	3P 4W	Up to 100	G-frame
	480∆	3P 3W	Up to 100	G-frame
С	480Y/277	3P 4W	Up to 100	G-frame
	480∆	3P 3W	Up to 100	G-frame
D	480Y/277	3P 4W	Up to 225	G-frame
	480Δ	3P 3W	Up to 225	G-frame
F	480Y/277, 480∆, or 600∆††	3P 3W or 3P 4W	Up to 225	F-frame

Panel Sizes B, C, and D (G-Frame Cutler-Hammer™):

- 1-, 2-, and 3-pole: GHB 480/277Y (standard offering)
- 2- and 3-pole: GDB 480∆ (requires suffix -GDB)
- 1-, 2-, and 3-pole GBH 600Y/347 (requires suffix -GBH; contact
- 15, 20, 25, 30, 35, 40, 45, 50 amp (available in all breaker spaces in panel), 60, 70, 80, 90, 100 amp (only 3 breaker spaces
- Ambient compensated breakers are optional to +50°C (suffix V)

Panel Size F (F-frame breaker: EHD Cutler-Hammer™ standard):

- 15, 20, 25, 30, 35, 40, 45, 50, 60, 70 amp (available in all breaker spaces in panel), 80, 90, 100 amp (only 3 breaker spaces available)
- Breaker types available † † †
- FDB: 2-, and 3-pole 600V
- FD: 1-, 2- (277V), and 3-pole (600V)
- HFD: 1-, 2- (277V), and 3-pole (600V)
- EHD: 1-, 2- (277V), and 3-pole (480V)

Main Breaker Trip Ratings:

- 2- and 3-pole (contact factory for single phase sizes B, C, D)
- Size B, C: 15 to 100 amps
- Size D, F: 15 to 225 amps

Main Lugs:

- Size B, C, and F: 225 amps
- Size D: not available; main breaker only

Ampere Interrupting Capacity:

- All size panels are certified to 10kAlC
- Breaker AIC Ratings:
- GHB Breaker: 14kAIC at 480Y/277
- EHD Breaker: 14kAIC at 480V

Breaker types optional with Sizes B, C, and D panel only:

- GDB Breaker: 14kAIC at 480V

Breaker types optional with Size F panel only:

- FDB Breaker: 14kAIC at 480V and 600V
- FD Breaker: 18kAIC at 600V and 35kAIC at 480V & 277V
- HFD Breaker: 25kAIC at 600V and 65kAIC at 480V & 277V

Options:

To add the following features to the panelboard, add a dash and then the suffix to the Cat. No. When multiple suffixes are needed, add them to the Cat. No. in alpha-numeric order.

Description	Suffix
Space heater	R44
Square head plugs on all conduit openings•	SP
Epoxy powder coat finish, external	S752
Epoxy powder coat finish, internal and external	S753
Recess head plugs on all conduit openings•	RP
Stainless steel breaker operator cover (ice shield)	HG
Group B kit factory installed	GB
GFI breakers≎	G
EPD breakers♥	E
HID breakers≎	H
Ambient compensated breakers (50°C)	V
GDB 480∆ 3P 3W system■	GDB
FDB 600V breakers*	-DB600
FD 600V breakers*	FD600
HFD 600V breakers*	1ED600
Lamacoid Nameplate	LID
	LID
A standard panelboard has conduit openings for power and branch circuits on top.	

To order a panelboard with main power feed from the bottom of breaker housing, and branch entries on top (alternate) . To order an inverted panelboard with all conduit openings for

power and branch circuits on the bottom (inverted)

To order an inverted panelboard with main power feed on top and bottom (alternate inverted)-A-I**

†Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix –GB. For field installable kit, order EXD-GB-KIT for Sizes B, C, and D separately ‡NEMA 4X rating is available when ordered with suffix S752 or S753.

††For 480∆ 3P 3W system or for 600VAC, a suffix is required. Note: for single-pole 480∆, GHB breakers will be furnished for Sizes B, C, and D. ‡‡Two-pole GDB breakers are only available up to 50 amps.

†††F-frame breakers are only available in Size F panel with up to a maximum of 30 circuit spaces.

Please contact factory. Single pole 480V EPD available. For all others, please contact factory. Two breaker positions for single pole EPD: odds start at position 1; evens start at position 4.

Available in D2D and EXD Sizes B, C, and D only.

*Available with D2D and EXD Size F panels only.

**D2D/EXD Sizes C and D are only available with up to 36 circuits.

Not available on stainless terminal housings.

⋗

1A

PowerPlus™ Panelboards

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2) EXD Series: Cl. I, Div. 1 & 2, Groups B \dagger , C, D Cl. I, Zone 1 & 2, IIB + H₂ \dagger Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12

CI. III

D2D Series: Cl. I, Div. 2, Groups B \dagger , C, D Cl. I, Zone 2, IIB + $H_2\dagger$ Cl. II, Div. 2, Groups F, G Cl. III

NEMA/EEMAC: 3, 4, 4X±, 7B+CD, 12

Accessories:

Gland Plates

Field installable gland plates with factory-provided aluminum Myers™ Hubs for the D2D stainless steel terminal housing (one 3-inch hub and 12 branch entry hubs - size dependent upon suffix, each kit includes 3 gland plates, 1 for the top or bottom and 1 for each side):

¾" branch entry hubD2D HUB2 KIT1" branch entry hubD2D HUB3 KIT1½" branch entry hubD2D HUB3 KIT1½" branch entry hubD2D HUB5 KITReplacement gland plate (no hubs)D2D HUB0 KIT

Circuit Breaker Operator Assemblies:

Operator AssembliesPart NumberD2D/EXD All breakers panel Sizes B, C, DEXD HDL123D2D/EXD All breakers panel Sizes FEXD K1

Replacement Cover Plugs:

For unused circuit breaker positions (qty. 5):

 Plug Kits
 Part Number

 D2D/EXD Sizes B, C, D
 EXD OP PLG

 D2D/EXD Size F
 EXD K2

Kit for Group B

Standard panels less -GB suffix are applicable for Group B, but it is required to install brackets on breakers.

To order brackets factory installed add suffix -GB For field installable kit (Sizes B, C, D) EXD GB KIT

D2D/EXD Stainless Steel Breaker Operator Cover

To protect operators from ice build-up for all D2D/EXD PowerPlus panels:

PowerPlus panels:

Part Number

D2D/EXD PowerPlus panels Contact Factory

Space Heater Kit

D2D/EXD PowerPlus panels EXD R44 KIT

Terminal Housing Mounting Plate Kit: To adapt depth of terminal housing to same

depth as breaker enclosure ***

Panel Types / Sizes

Panel Types / SizesPart NumberTerminal HousingD2D/EXD Sizes B, C, DEXDA-MTG-KITAluminumD2D Sizes B, C, DD2DS-MTG-KITStainless

†Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for Sizes B, C, and D separately.

***The weight of the panel is sufficiently supported by mounting of breaker enclosure.

‡NEMA 4X rating is available when ordered with suffix S752 or S753.

PowerPlus™ Panelboards 1A

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2)

EXD Series: Cl. I, Div. 1 & 2, Groups B†, C, D Cl. I, Zone 1 & 2, IIB + H₂† Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

D2D Series: Cl. I, Div. 2, Groups B+, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G

NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12 NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

Table A - Panel Capacity

Maximum Number of Breaker Spaces:

	Max. No. of Branch Circuit Breaker Spaces		Available Main	Available		
Panel	With Main	With	Main Breaker	Breaker	With GFI, EPD	
Size	Lug Only	2-pole*	3-pole	Ampacity	Branch Protection***	
В	24	22	21	Up to 100■	No	
С	42	40	39	Up to 100 ■	No	
D	N/A	42	42	Up to 225 ≎	No	
F	30	30	30	Up to 225 ≎	No	

Table B - To Size Panels with GFI or EPD **Branch Breakers**

Maximum Number of GFI or EPD Breakers Panel Size with Main Lug Single-Twoor Main Breaker Pole Pole 12 В (10 with 3-pole MCB, 11 with 2-pole MCB) C EPLDN only - can go up to 42 GFI or EPD circuits. EPLDN will accommodate up to 225 amp main breaker.

Each factory-sealed panel is equipped with 42 load wires for GFI/EPD breakers and any combination with standard branch breakers. Determine the total number of load wires required to complete your panel. You may not exceed 42 load wires. **Load Wires Required**

Single-pole breaker Single-pole GFI (or EPD) breaker 2 Two-pole breaker 2 Two-pole GFI (or EPD) breaker 3 Three-pole breaker

Maximum Total: 42 load wires (factory sealed) Maximum Total: 82 load wires (non-factory sealed)

EPLDN Panels

[†] Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for Sizes B, C and D separately.

* NEMA 4X rating is available when ordered with suffix S752 or S753.

* Contact factory for single phase size B, C, or D.

Main breakers are mounted external to chassis.

Main breakers are chassis mounted and back-fed.

^{***}GFI, EPD for D2D/EXD are not standard options. If required, please contact factory. Single pole 480V EPD available. For all others, please contact factory. Two breaker positions for single pole EPD: odds start at position 1; evens start at position 4.

PowerPlus™ Panelboards

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2)

EXD Series: Cl. I, Div. 1 & 2, Groups B†, C, D Cl. I, Zone 1 & 2, IIB + H₂† Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

D2D Series: Cl. I, Div. 2, Groups B†, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G CI. III NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12 NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

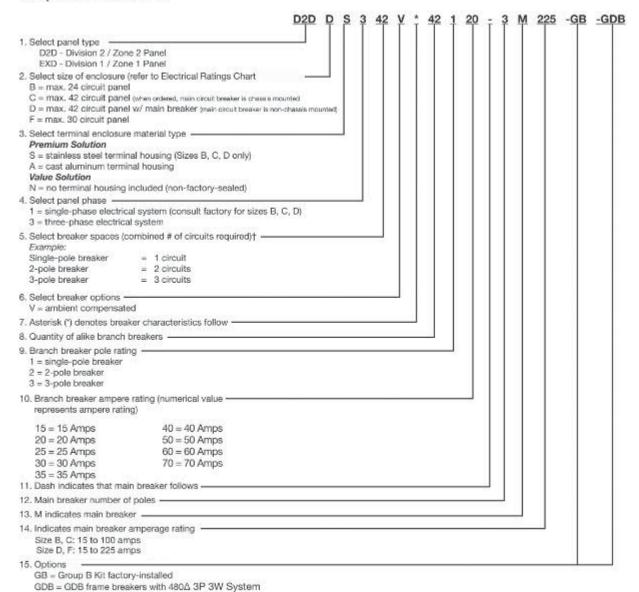
1A

Power Panelboard Catalog Number Example

Class I, Division 2 / Zone 2, Group B panel with:

- 480∆VAC power panelboard with 3-phase, 3-wire
- (42) single-pole 20 amp branch breakers
- 225 amp 3-pole main circuit breaker

Example would be ordered as:



† Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately ‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

†Even number of breaker spaces is required. For odd number of spaces, round up to next even number.



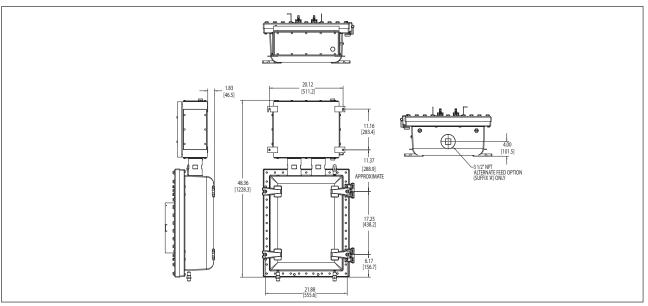
PowerPlus™ Panelboards 1A

Power EXD Series (Div. 1 & 2) D2D Series (Div. 2)

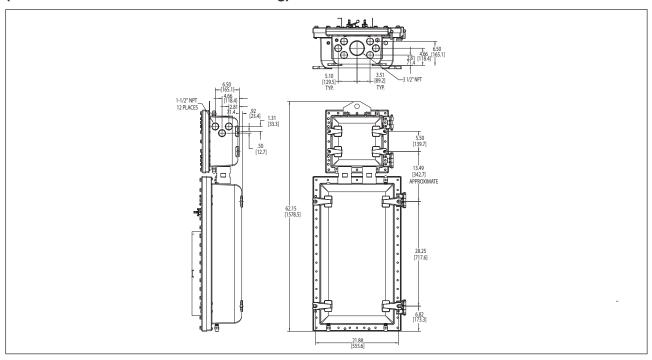
EXD Series: Cl. I, Div. 1 & 2, Groups B†, C, D Cl. I, Zone 1 & 2, IIB + H₂† Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12 7B†CD, 12

D2D Series: Cl. I, Div. 2, Groups B†, C, D Cl. I, Zone 2, IIB + H₂† Cl. II, Div. 2, Groups F, G CI. IIÍ NEMA/EEMAC: 3, 4, 4X‡,

Dimensions Size B Panel* (With Stainless Steel Terminal Housing)



Size C and D Panel* (With Cast Aluminum Terminal Housing)



- † Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately.

 ‡ NEMA 4X rating is available when ordered with suffix S752 or S753.

 **Stainless steel and cast aluminum terminal housing for sizes B, C, and D panels have same dimensions.

 Note: Value series non-factory-sealed EXD*N panel dimensions are the breaker housing only and use standard entries shown on cast terminal housing.

PowerPlus™ Panelboards

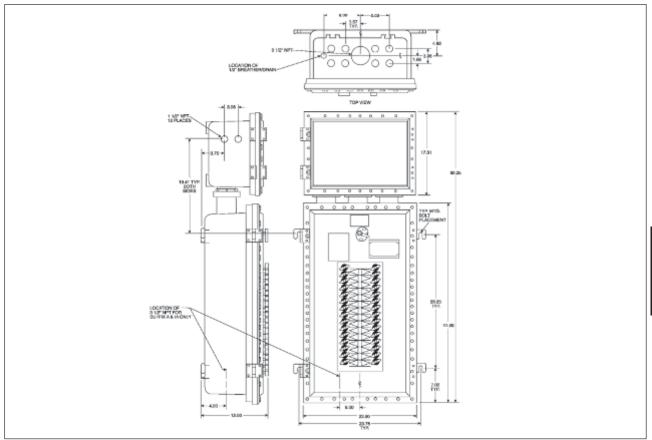
Power EXD Series (Div. 1 & 2) D2D Series (Div. 2)

EXD Series:
Cl. I, Div. 1 & 2, Groups B†, C, D
Cl. I, Zone 1 & 2, IIB + H₂†
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III NEMA/EEMAC 3, 4, 4X‡, 7B†CD, 9EFG, 12 NEMA/EEMAC: 3, 4, 4X‡, 7B†CD, 12

D2D Series: CI. I, Div. 2, Groups B†, C, D Cl. I, Zone 2, IIB + H_2 † Cl. II, Div. 2, Groups F, G CI. III

1A

Size F Panel



[†] Group B and IIB + H2 is standard on all PowerPlus panels, but requires special brackets to be installed on breakers to ensure long-term operability of circuit breakers. To order with brackets installed at factory, add suffix -GB. For field installable kit, order EXD-GB-KIT for sizes B, C and D separately.

* NEMA 4X rating is available when ordered with suffix S752 or S753.

* Stainless steel and cast aluminum terminal housing for sizes B, C, and D panels have same dimensions.

Note: Value series non-factory-sealed EXD*N panel dimensions are the breaker housing only and use standard entries shown on cast terminal housing.

Power, lighting, and heat tracing panels for Class I, Division 2 applications

CI. I, Zone 1, Aex de IIC T4
Ex de IIC T4
CI. I, Div. 2, Groups A, B, C, D
CI. II, Div. 1, Groups E, F, G, Extb IIIC
T100°C Db

Type 4X, IP66

SynergEX Panelboards offer superior solutions utilizing individually encapsulated circuit breakers to provide maximum safety in the most extreme environments. The finger safe design provides ultimate flexibility and speed during installation, normal operations and maintenance activities in the field. This advanced design is approved for all hazardous gases, which allows for operation in multiple locations and hazardous situations.

Applications:

SynergEX Panelboards provide overcurrent and short circuit protection for low voltage power, lighting, and heat tracing applications in indoor and outdoor hazardous areas, such as:

- Refineries
- · Chemical and petrochemical plants
- Mining
- · Corrosive process facilities
- Food processing facilities
- · Indoor and outdoor industrial applications

Features:

- Lightweight design for reduced labor and equipment installation
- · Dead-front design allows for operating breakers without hot permit
- Finger safe design eliminates safety risk for personnel
- Patented friction welded encapsulated molded-case circuit breakers
- Robust design providing operations in all gas groups and extreme hot/cold environments
- · Front viewing window for easy visual indication of breaker status
- Quick snap encapsulated circuit breakers (no bolts or screws)
- Removable gland plates for easy addition of entries
- Gangable for main breaker housing

Certifications and Compliances:

NEC/CEC:

- Class I, Zone 1, Aex de IIC T4
- Ex de IIC T4
- Class I, Division 2, Groups A, B, C, D
- Class II, Division 1, Groups E, F, G, Extb IIIC T100°C Db
- Type 4X, IP66

Electrical Ratings:

SynergEX Panelboard:

- Max. 225A / Phase (3 phase max.)
- Max. 480VAC
- Max. 225A main breaker (external enclosure)
- 10kA short circuit current

Encapsulated Circuit Breakers:

- 480/277VAC
 - 1-, 2- and 3-pole
 - 10, 15, 20, 25, 30, 35, 40 amps
 - Auxiliary and signal contact
- 240/120VAC
 - 1-, 2- and 3-pole
 - 10, 15, 20, 25, 30, 35, 40 amps
 - 1-pole GFI and EPD
 - Auxiliary and signal contact



Standard Materials:

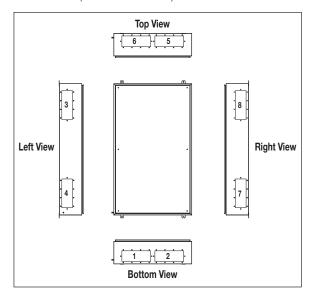
- Enclosure 316L stainless steel or painted steel
- Observation window laminated safety glass
- External parts (hinges, screws, washers, ¹/₄ turn locks, gland plates) – 316L stainless steel
- Internal parts (screws, washers, back plate, fasteners) 304 stainless steel
- Gasket silicone
- Dead-front panel flame rated fiberboard (V-1)
- Bus bars nickel-plated copper
- Filler plates flame rated nylon (V-0)
- Bonding/grounding assembly brass
- Encapsulated circuit breakers flame rated nylon (V-2)

Options:

DescriptionBreather and Drain

Main Breaker (100A, 150A, 225A)

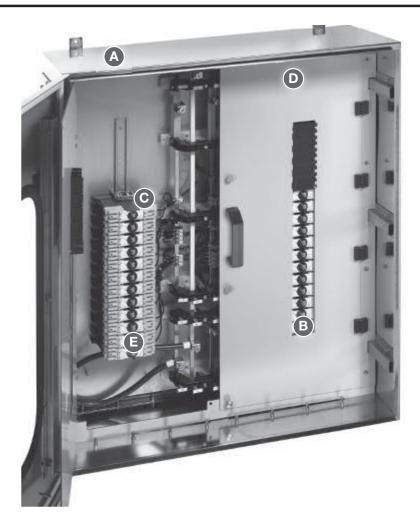
Heater (-40°C) Bottom Feed Inverted Panelboard Gland Plates (see locations below) Suffix BD See Catalog Numbering System HTR I GP1-GP8



SynergEX Panelboards

Power, lighting, and heat tracing panels for Class I, Division 2 applications

CI. I, Zone 1, Aex de IIC T4
Ex de IIC T4
CI. I, Div. 2, Groups A, B, C, D
CI. II, Div. 1, Groups E, F, G, Extb IIIC
T100°C Db



- (A) Extreme temperature durability This panelboard is designed to withstand temperatures ranging from -40°C to +55°C, offering operational durability in the most extreme environments.
- ® Efficient breaker operation Dead front design allows for breakers to be easily and quickly reset.
- © Certified for all hazardous gases The individually encapsulated breakers are certified for all hazardous gases (ABCD, IIC), allowing an end-user to install the product in a variety of hazardous locations.
- D Finger safe configuration Enhanced finger safe design prevents contact with live parts, ensuring personnel safety.
- (E) Quick snap, screwless breaker replacement Our circuit breakers are individually encapsulated without any bolts or screws, greatly reducing installation time and cost.

1A

SynergEX Panelboards

Power, lighting, and heat tracing panels for Class I, Division 2 applications

Cl. I, Zone 1, Aex de IIC T4 Ex de IIC T4 Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups E, F, G, Extb IIIC T100°C Db Type 4X, IP66

Catalog Numbering System:

SERIES	SIZE	MATERIAL	PANEL PHASE	PANEL VOLTAGE RATING	BREAKER SPACES	ASTERISK	QUANTITY OF ALIKE BRANCH BREAKERS	BRANCH BREAKER POLE RATING	BRANCH BREAKER AMPERE RATING	DASH	MAIN BREAKER	DASH	OPTIONS	GLAND Plates
SPB	Α	s	1	1	12	*	12	1	10	-	3M100	-	HTR	GP1GP2GP3
Series SPB Enclosure Siz A = 12 CCT B = 24 CCT C = 42 CCT D = 60 CCT Enclosure Ma S = 316L Stair P = 304 Painte Panel Phase - 1 = Single Pha 3 = Three Pha: Panel Voltage 1 = 120/240V 2 = 208/120V 4 = 480/277V Breaker Spac 1P Breaker = 2 2P Breaker = 2 3P Breaker = 3 Insert Asteris Quantity of Al Branch Break 1 = 1P Brea 2 = 2P Breake 2AX = 2P Brea Branch Breake Branch Break	ase Rating — (1 Phase, 3 (3 Phase, 4 (3 Phase, 4 (3 Phase, 4 (3 Phase, 4 Ses — 1 Space 1 3 Spaces 1 Sp	(Type 4X) pe 4X) Wire) Wire) Wire) Wore) TOTAL NUMBER ROUND UP TO A Be Each Brance Breakers — ting WIRE WIRE WIRE WIRE WIRE WIRE WIRE WIRE	UE REPRESEN To 225A (Es above 40A	SPACES UTILL. SPACES UTILL. SER Series 2SC = 2P Bi 3 = 3P Brea 3AX = 3P Bi 3SC = 3P Bi 1G = 1P GFI 1E = 1P EPI NTS AMPERE R	zed + Sigi ker reaker + Aux reaker + Sigi O	nal Contact iliary nal Contact					3M100		HTR	GP1GP2GP3
Gland Plates	(Gland plates a	t locations 1	, 2 and 3 are	standard —									

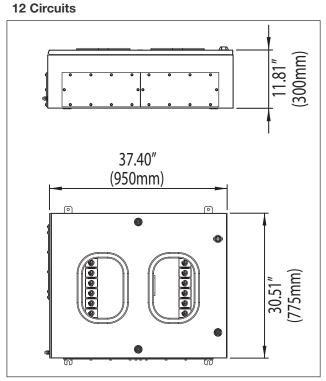
SynergEX Panelboards

Power, lighting, and heat tracing panels for Class I, Division 2 applications

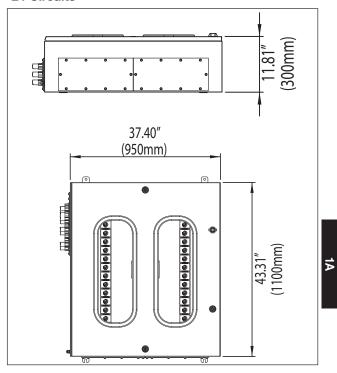
Ex de IIC T4 Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups E, F, G, Extb IIIC T100°C Db

Cl. I, Zone 1, Aex de IIC T4

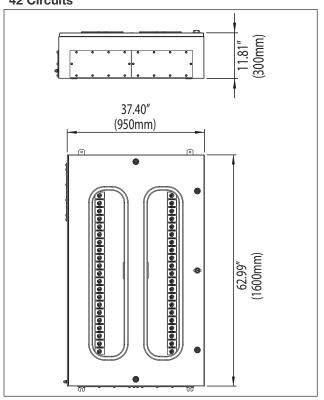
Dimensions:



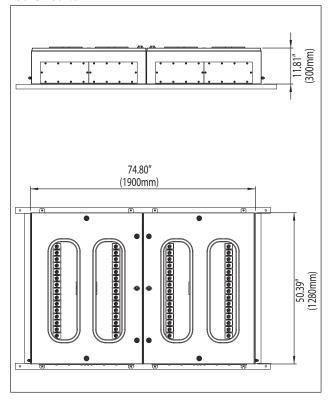
24 Circuits



42 Circuits



60 Circuits



Crouse-Hinds by **F**:**T·N**

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Applications:

D2Z panelboards are designed specifically for use in:

- Class I, Zone 1, Division 2, Groups A, B, C, D hazardous area locations.
- · In damp, wet or corrosive locations.
- Indoors or outdoors in Zone 1, Division 2 areas of petroleum refineries, chemical and petrochemical plants, and other process industry facilities.

Features:

- cCSAus, PTB* certified for Class I, Zone 1, Division 2 hazardous areas.
- Fiberglass-reinforced polyester enclosures:

Non-metallic, corrosion-free

Increased safety Ex-e protection

Impact resistant

NEMA 4X. IP65

Enclosure meets UL 94-VO

UV listed

• 316L stainless steel enclosures (suffix S860):

Corrosion resistant

Industrial grade thickness

NEMA 4X, IP65

- Unique design allows for panels with more than 42 circuits.
- Main disconnect switches 40, 80, 125, 180A.
- Optional flameproof Ex-d fusing of main disconnect.
- Flameproof Ex-d encapsulated UL 489 branch circuit breakers: Thermal-magnetic protection up to 40A with 240 VAC circuit breakers

Thermal-magnetic protection up to 25A with 480 VAC circuit breakers.

Auxiliary contacts (mechanical or electrical).**

Lockout on components.

Prewired to Increase Safety terminal blocks.

GFI branch breakers (EPDs).**

- Clear, NEMA 4X / IP65 window, hinged for actuation or breakers.
- Double lockout on windows and breakers.
- Brass plates for hub or cable gland entries.
- Enclosures are to be vertically mounted on switchrack frames or walls.
- Completely pre-wired ready for connection to terminal blocks.

Certifications and Compliances*:

Certifications cCSAus
Degree of Protection NEMA 4X
IP65 to IEC 60529

UV Resistance ISO 4892

Enclosure Material Glass-reinforced polyester

Temperature Ratings -55°C to 40°C***
Rated Voltage 480 VAC
Rated Current Max. 180A

NFC:

Class I, Division 2, Groups A, B, C, D

Class I, Zone 1, Group IIC

CFC:

Class I, Division 2, Groups A, B, C, D Class I, Zone 1, Group IIC Class II, Division 1, Groups E, F, G

• UL Standards:

UL60079-0 UL60079-1 UL60079-7

• CSA Standards: UL60079-18 C22.2 E60079-0-02

C22.2 E60079-1-02 C22.2 E60079-7-2003 C22.2 E60079-18-95



D2Z with fiberglass-reinforced polyester enclosure



D2Z with 316L stainless steel enclosure (suffix S860)

Options:

The following special options are available from the factory by adding the suffix to the Cat. #:

Description

locations.

D2Z Series panelboards are now available with 316L stainless steel enclosures. This material is ideal for wash down and corrosive areas requiring product endurance in adverse

S860

*Available with ATEX certification, please consult factory.

**Available with only UL 1077 supplemental protectors.

***For ambients -20°C or less, optional heater is required.

Suffix

D2Z Panelboards Zone 1, Division 2

Non-metallic or Stainless Steel

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G

AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Technical Data Branch Circuit Breakers

1-pole, 2-pole, 3-pole, 4-pole; with EPD protection 1-pole + Neutral, 2-pole; 2, 6, 10, 16, 20, 25, 32 and 40 Amps

Explosion Protection

Class I, Zone 1, Div. 2, Groups A, B, C, D

Class II, Div. 1, Groups E, F, G

cCSAus

Rated Operating Voltage Up to max. 480 VAC

Rated Current Up to 40A 10k AIC **Rated Switching Capacity**

UL489 Circuit Breakers **Circuit Breaker Characteristics**

"Z" or "K" **Tripping Characteristics**

Tripping Current for EPDs 30mA (up to 300mA on request) **Circuit Breaker Enclosure Materials** Fiberglass-reinforced epoxy

• Large windows permit easy viewing and quick access to breakers without opening the enclosures.

- Lockouts standard for both windows and breakers
- Up to 6 single-pole breakers can be installed under one window.
- NEMA 4X, IP65 protection.
- Window locks with 5/16" (8mm) Allen Key.

Main Switch

- 40A main switch, 4-pole, optional fusing in enclosure with window(s).
- 80, 125 and 180A main switch, 4-pole, optional fusing in enclosure.

Optional Auxiliary/Signal Contacts**

Rated Voltage 250 VAC **Rated Current** 5A

Main Disconnect Switch

40, 80, 125, 180A, 4-pole

Certifications

Explosion Protection Ex de IIC T6 AEx de IIC T6

Class I, Zone 1, Div. 2, Groups A, B, C, D Class II, Div. 1, Groups E, F, G

Up to 690 VAC **Rated Operating Voltage**

690V Motor Switching Capacity AC3*** Type 230V 400V 500V 40A 40A 40A 32A 40A 63A 80A 80A 80A 80A 125A 125A 125A 110A 125A 180A 180A 180A 150A 125A

Signal contacts indicate only electrical tripping and are used primarily on heat-tracing circuits. Branch breakers with signal contacts require next larger breaker enclosure.

^{***}See IEC 60947-3.

* "Z" Branch breakers are used for all general applications such as lighting and heat tracing.

Type "K" breakers are used for MOVs and portable power. Contact factory for other application.

* "Aux contacts indicate mechanical or electrical tripoles." Aux contacts indicate mechanical or electrical tripping

Rated Current

D2Z Panelboards Zone 1, Division 2

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G

AEx de IIC T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Non-metallic or Stainless Steel

Main Fuse, 3-pole

Explosion Protection Ex de IIC

AEx de IIC

Class I, Zone 1, Div. 2, Groups A, B, C, D

Rated Operating Voltage Up to max. 500 VAC

Current Temperature Class in Board 25A 35A T5 50A T4 63A T4 80A T4 100A T4

125A T4 Recommended manufacturer: Eaton's Bussmann type NH00G fuses for general use

or N00M for motor applications. Specify Amperage (Fuses not provided)

Standard Entries

Main supply

Branches

Brass gland plate with Zone 1 Myers adapter hubs: (STM series)

Metric Entries (remove hubs) (1) M63 + (3) M32

(9) M25

(1) 2" + (3) 1" (9) 3/4"



Main Fuse, type NH



- Universal Wiring Zone 1 Myers™ adapter hubs for conduit or Terminator™ cable glands.
- Stainless Steel Hubs available upon request.

D2Z Panelboards Zone 1, Division 2

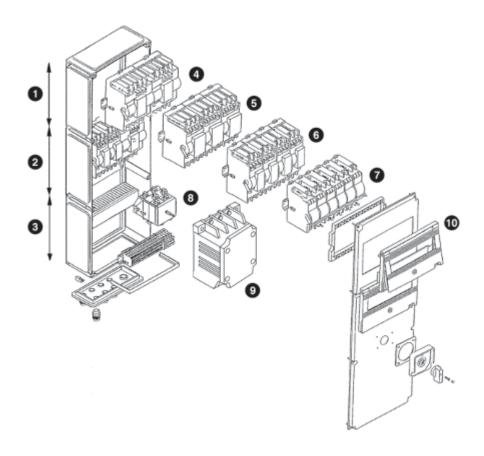
Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G

AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Non-metallic or Stainless Steel

SpecOne™ D2Z Panelboard Construction Layout

Example of D2Z distribution panel with built-in components under the window. (available mounting width = 213mm)



D2Z panel with 3 mounting spaces

- Mounting Space 190mm
- Mounting Space 190mm
- Mounting Space 190mm
- (2) 4 pole breakers width 106mm each (available mounting width 213mm) (3) 3 pole breakers width 70mm each (available mounting width 213mm) (4) 2 pole breakers width 53mm each (available mounting width 213mm)

- (6) 1 pole breakers width 35mm each (available mounting width 213mm)
- 40A main switch, 4-pole. 1 mounting space required
- Main fuse. 1 mounting space required in place of 1 window
- 10 Window

1A D2Z Panelboards Zone 1, Division 2

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Non-metallic or Stainless Steel

Ordering Procedure Step 1: Window

Determine the number of windows required from the following chart based on the number of branch breakers. Multiply breaker space by number of breakers. Round the sum total to the next highest whole number to determine required windows. i.e. For (8) 1-pole and (2) 2-pole breakers: $(8 \times 0.16) + (2 \times 0.25) = 1.78 = 2$ windows required.

	Max. No. Per Window	Branch Circuit Breakers (max 40A)	Space Required For Each Breaker
• • • • • • • • • • • • • • • • • • •	6	1-pole	.16
[] [] [] []	4	2-pole or 1-pole with EPD or 1-pole with signal contact	.25
	3	3-pole or 1-pole + Neutral with signal contact or 2-pole with signal contact	.33
	2	4-pole or 2-pole with EPD or 3-pole with signal contact	.50

Step 2: Disconnect Switch

If a disconnect switch is required, select suffix from table.

Main Switch Disconnect

	3-phase	Single Phase
40	-3S* 40	-2S* 40
80	-3S* 80	-2S* 80
125	-3S* 125	-2S* 125
180	-3S 180	_

*Add F if fuses required. Fuses supplied by others. See page 656

Quantity of

D2Z Panelboards Zone 1, Division 2

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G

AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Non-metallic or Stainless Steel

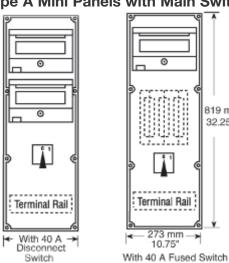
Step 3: Panel Size

Determine Panel Size Based on Windows Required

Number of Windows Required

Required	Type Required	Disconnect
1, 2	A mini panel	40A disconnect - Integral
3	B panel	Optional - Adjacent
4 – 6	C panel	Optional – Adjacent
7 – 9	D panel	Optional – Adjacent

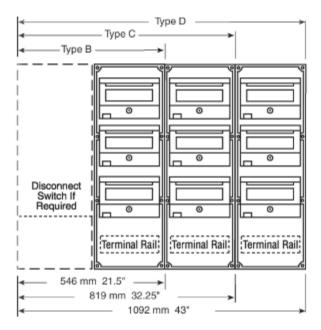
Type A Mini Panels



with Main	Switc
	819 mm 32.25"
> 🚹 6	
Terminal Rail	Ļ
10.75"	Rwitch

Single Circuits 40A 3-Phase 40A Fused 3-Phase D2Z A306 - 3S40* D2Z A306 - 3SF40* D2Z A308 - 3S40* D2Z A310 - 3S40* 10 D2Z A312 - 3S40* 12 Quantity of Single Circuits Single Phase Single Phase D2Z A106 - 2S40* D2Z A106 - 2SF40* D2Z A108 - 2S40* 8 D2Z A110 - 2S40* 10 12 D2Z A112 - 2S40* *See page 661 to complete catalog number.

Panels Type B, C, and D



1A D2Z Panelboards Zone 1, Division 2

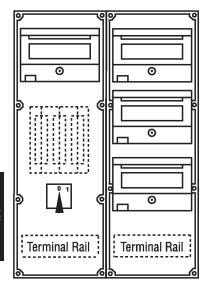
Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Non-metallic or Stainless Steel

Step 4: Conduit/Cable Entries

Determine if additional entries are required on sides B and C. All panels are supplied with bottom entries (Side A), 1 main supply and remainder as branches.

Example: Size D panels with disconnect switch have 1 main supply and 3 branch plates as standard.



Main Entries Type	Entries	Location
Main Supply	(1) 2" + (3) 1"	A (Standard)
Branches	(9) 3/4" (B panel) (18) 3/4" (C panel) (27) 3/4" (D panel)	A (Standard) A (Standard) A (Standard)
Branches	(9) ³ / ₄ " (9) ³ / ₄ "	B (Optional) left side C (Optional) left side

Terminal Wiring

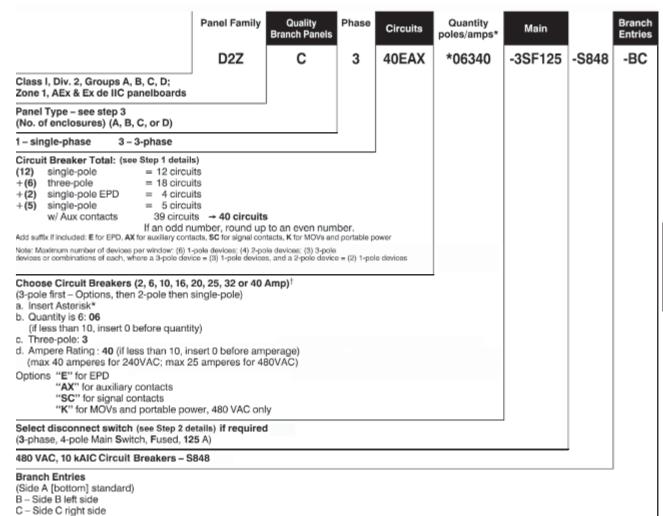
Supply Circuits Amperage	mm²	AWG	Branch Circuits Amperage	mm²	AWG
40	16	6-18	10	4	12-22
80	35	2-6	15	4	12-22
125	70	8-2/0	20	10	6-14
180	95	6-3/0	40	16	6-18

D2Z Panelboards Zone 1, Division 2

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Non-metallic or Stainless Steel

How to Build a Catalog Number‡



Example Order Number: D2Z C 3 40EAX * 06340 * 12120 * 02120E * 05110AX-3SF125-BC

(6) 3-pole/40A = *06340 (12) single-pole/20A = *12120 (2) single-pole/20A EPD = *02120E (5) single-pole/10A = *05110AX w/Aux contacts

For other panels or options, consult factory

‡ For a D2Z panelboard with 316 stainless steel enclosure, add suffix "S860" to catalog number

† Max of 25 amperes for 480VAC UL489 branch circuit breakers

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G

AEx de II C T4, T6 Ex de IIC T4, T6 NEMA 4X, IP65

Non-metallic or Stainless Steel

Spare Component Information

Lighting Circuits Order Code 10k AIC, max. 480 VAC



1-pole 6/window SIA 001



4/window SIA 002



3-pole 3/window SIA 003



4-pole 2/window SIA 004

Please state rated current on order: 2, 6, 10, 16, 20, 25, 32 or 40A.*

Optional:

Auxiliary contact - SAH 001 Signal contact - SAS 001 (in the case of branch breakers with signal contacts, the next largest component size is used)

Example:

SIA 001-20 - SAH001 Single Pole, 20A with auxiliary contacts

Please state rated current on order: 6, 10, 16, 20, 25, 32 or 40A.

Optional:

With auxiliary contact - FSH 001 With signal contact in Size 4 component -FSS001

Example: FSS 004 - 30 - FSS001 EPD, 30A, 30mA with signal contact *25 ampere max. for 480VAC breakers.

Heat-Tracing Order Code EPD with 10k AIC, 30mA leakage, max. 480 VAC

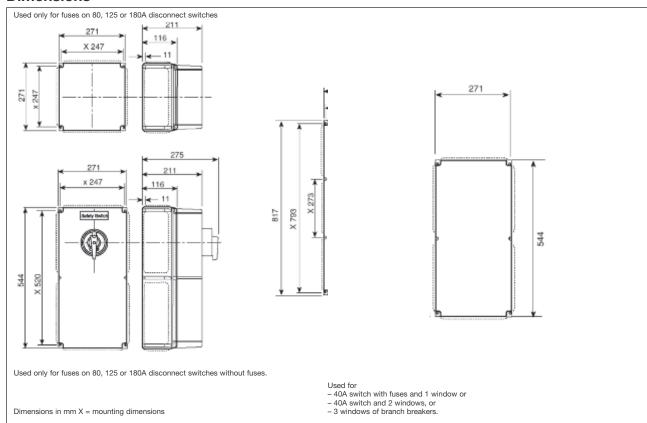


1-pole + N 4/window FSS 002



2-pole 2/window FSS 004

Dimensions



D2PB Division 2 Circuit Breaker Panelboards

Factory Sealed, Single & Two-Pole Circuit Breakers

Applications:

D2PB panelboards are designed specifically for use:

- In Class I, Division 2, Groups C, D hazardous areas where flammable vapors or gases may be present due to accident or abnormal locations
- In damp, wet or corrosive locations
- Indoors or outdoors in Division 2 areas of petroleum refineries, chemical and petrochemical plants, and other process industry facilities

For general application, circuit breaker and wiring system information, see pages 626-629.

Features:

- Enclosures are of external flange design, which makes the interior completely accessible when the cover is removed
- · Provided with concealed mounting, which is made possible by having four clearance holes for lag screws or mounting bolts in the back of the enclosure, one in each corner
- The interior sub-assembly, consisting of a mounting plate, main terminal blocks, and circuit breakers, is removable as a complete
- · Ample gutter space is provided for ease of field wiring
- · Circuit breakers are contained in compact, individual factory sealed enclosures suitable for Class I, Division 2, Groups C, D hazardous areas. The individual enclosures are easily removed and replaced, therefore changing or adding individual circuit breakers will not present a problem
- The main cover, which is gasketed to exclude dirt and moisture, is attached to the body with hex head bolts and is removed only when installing the panelboard or making wiring changes. In the center of the main cover is a gasketed hinged door, which provides access only to the circuit breaker operating handles, and is held closed by two quick release catches. The door can be locked by as many as 3 padlocks to prevent unauthorized operation
- Tapped conduit openings are provided for main conduit and branch circuits, as shown in the dimensional information. Standard openings can be reduced or plugged to meet most installation requirements
- · Circuit breakers are arranged in two vertical rows and have the circuit numbers marked on the handles. The left row is numbered 1, 3, 5, 7, etc. and the right row 2, 4, 6, 8, etc. Identifying information may be typed on the circuit directory card attached to the inside of the hinged door

Certifications and Compliances:

- NEC:
 - Class I, Division 2, Groups C, D
- NEMA: 3, 7CD (Division 2), 12
- UL Standard: 67, 877

Standard Materials:

- Bodies, covers and hinged doors copper-free aluminum
- Breaker operating handles type 6 / 6

Dust-tight Raintight

Cl. I, Div. 2, Groups C, D

NEMA 3, 7CD (Div. 2), 12

• Interior parts - sheet steel

Standard Finishes:

- Copper-free aluminum natural
- Type 6 / 6 nylon natural (black)
- Sheet steel electrogalvanized with chromate finish

Options:

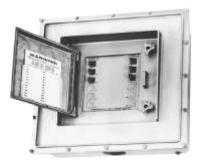
Description:	Suffix:
 Panelboard provided with 	
operating handle lockouts for	
lockout in ON or OFF positions.	
Stainless steel lockout frame	
integral to panel faceplate.	
D2PB Size 1	L12
D2PB Size 2	L24
 Branch conduit entries furnished 	
with Eaton's Crouse-Hinds type	
PLG plugs	S822
· Square head plugs in all openings	S872
 Branch circuit conduit openings 	
located at bottom instead of at top	INV
 Drilled and tapped conduit 	
openings other than standard -	
available on special order - specify	
Breather and drain	. DV
 Circuit breaker operating handle 	
lockout - order D2PB02	

ratings - see listings. Wiring system other than those listed -See page 628 Specify

Dimensions

Assortment of single-pole and two-pole circuit breakers and trip



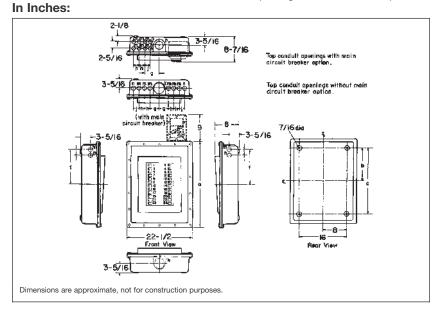


Size Ranges:

	Max. No. of E	reakers
Panel Size	Single-Pole	Two-Pole
1	12	6
2	24	12

Electrical Rating Ranges:

- Circuit breakers
- Single-pole 120/240VAC max.
- Two-pole 120/240VAC max.
- Trip ratings 15, 20 and 30 amp



Raintight

1A

Factory Sealed. Single & Two-Pole Circuit Breakers

Panelboards

D2PB Division 2 Circuit Breaker





D2PB with Main Breaker Option

Ordering Information:

Panelboards are available with single-pole and two-pole, 15, 20, or 30 ampere circuit breakers. To order a panelboard with all breakers of the same rating, add the desired rating as a suffix to the Cat. No. For example, the 12 circuit D2PB1512 panelboard with all the circuit breakers rated at 20 amperes would be ordered as D2PB1512-20.

Panelboards shown below can also be furnished with an assortment of single-pole and twopole breakers and breaker ampere ratings. To order, the quantities of breakers and ampere ratings are added as a suffix to the Cat. No. The total number of poles will determine the panel size (24 poles maximum), and the wiring systems must be compatible when combining single- and two-pole circuit breakers. For example, a typical D2PB panelboard with a combination of 3 single-pole 15 ampere, 3 single-pole 20 ampere, 2 single-pole 30 ampere, 4 two-pole 20 ampere, and 4 two-pole 30 ampere circuit breakers would be ordered as D2PB2508-315-320-230-808-420-430. The total number of poles is 24 and wiring systems 5 and 8 are compatible 4 wire, 3 phase.

The D2PB with a main breaker is available up to 100 amps. To order D2PB with main breaker, add the appropriate suffix. Example: D2PB1512-15 with three-pole, 100 amp main circuit breaker would be ordered as D2PB1512-15-3M100. If two-pole main is required, change the number 3 to 2. If a lower trip rating than 100 is required, the suffix will change accordingly.



D2CB12-20

Replacement Circuit Breaker Assemblies

Where D2PB (and N2PB) panelboards have been ordered with less than the maximum number of circuit breakers, breakers can easily be added in the field. Circuit breaker assemblies for field addition or replacement are listed below; they consist of the breaker itself in its factory sealed Class I, Division 2, Groups C, D enclosure, and necessary mounting hardware. These assemblies are not suitable for use as individually mounted units.

Circuit Breaker Assemblies Ampere Single-Pole Two-Pole Rating Cat. # Cat. # 15 D2CB11 15 D2CB12 15 D2CB11 20 20 D2CB12 20 30 D2CB11 30 D2CB12 30

Single-Pole Circuit Breakers Two-Pole Circuit Breakers

Max. No. of Breakers		_	Main	Wiring System 4* Mains: 3-Wire Branches: 2-Wire	Wiring System 5* Mains: 4-Wire, 3-Phase Branches: 2-Wire	Wiring System 3* Mains: 3-Wire Branches: 3-Wire	Wiring System 8* Mains: 4-Wire, 3-Phase Branches: 3-Wire, 1-Phase	
Single- Pole	Two- Pole	Panel Size	Lug Size‡	Solid Neutral Cat. #	Solid Neutral Cat. #	Solid Neutral Cat. #	Solid Neutral Cat. #	
6				D2PB1406 ①	D2PB1506 ①			
8	4		1 / 0	D2PB1408 ①	D2PB1508 ①	D2PB1304 ①	D2PB1804 ①	
10	5	ı	1/0	D2PB1410 ①	D2PB1510 ①	D2PB1305 ①	D2PB1805 ①	
12	6			D2PB1412 ①	D2PB1512 ①	D2PB1306 ①	D2PB1806 ①	
12	6			D2PB2412 ①	D2PB2512 ①	D2PB2306 ①	D2PB2806 ①	
14	7			D2PB2414 ①	D2PB2514 ①	D2PB2307 ①	D2PB2807 ①	
16	8			D2PB2416 ①	D2PB2516 ①	D2PB2308 ①	D2PB2808 ①	
18	9	2	4/0	D2PB2418 ①	D2PB2518 ①	D2PB2309 ①	D2PB2809 ①	
20	10			D2PB2420 ①	D2PB2520 ①	D2PB2310 ①	D2PB2810 ①	
22	11			D2PB2422 ①	D2PB2522 ①	D2PB2311 ①	D2PB2811 ①	
24	12			D2PB2424 ①	D2PB2524 ①	D2PB2312 ①	D2PB2812 ①	

①Add ampere rating. See ordering information.

Dimensions

	Overall and Mounting Dimensions (In.)			Condu Spacir	iit Openin ng (In.)	gs		Size	(ln.)			Quant	ity
	а	b	С	f	g	h	j	k	m	n≎	р	Main	Branches
Panel	Size Witho	out Main C	C.B.										
1	203/4	8	16	73/4	31/2	2		3	11/4			2	8
2	281/4	113/4	231/2	113/8	31/16	1 15/16	1 15/ ₁₆	3	11/4	1 1/4		2	12
Panel	Size With	Main C.B.											
1	203/4	8	16	73/4	5	1 15/16			11/4		21/2	2	8
2	281/4	113/4	231/2	113/8	5	1 15/16	1 15/16		11/4	11/4	21/2	2	12

Conduit opening "n" not supplied on panel size 1.

^{\$\}text{\$1/0}\$ ug, rated 125 amps. takes wire sizes \$\psi_0\$ to \$\si_0\$. *For description of these standard wiring systems, see page 628.

D2PB, D2L, D2D Circuit Breaker **Panelboard Assemblies**

with Transformer

Cl. I, Div. 2, Groups B+, C, D NEMA 3, 4‡, 7B†CD (Div. 2), 12 Wet Locations Watertight[‡]

Applications:

D2PB, D2L, D2D circuit breaker panelboard assemblies with transformers are for use:

- In Class I, Division 2, Group C, D hazardous areas where, due to accident or abnormal operations, flammable vapors or gases may be present, and which are subject to weather, dampness and corrosion
- Indoors or outdoors in Division 2 areas such as petroleum refineries, chemical and petrochemical plants, and other process industry facilities
- Where high voltage supply must be stepped down to the lower voltage necessary to serve lighting, heating, appliance, heat tracing, motor and similar circuits

For general information on panelboard applications, circuit breakers and wiring systems, see pages 626-629.

Features:

- The factory assembled panelboard and transformer are on one compact frame, suitable for either wall or pole mounting. Wiring between the transformer secondary and main lugs of the panelboard is accomplished at the factory.
- · Easy to install and wire. The main feed is connected to the transformer primary and the branch circuits are wired to the panelboard terminal blocks.
- The assembly can be installed in the load area to reduce the length of runs of low voltage branch circuits.
- · Panelboards used are standard D2PB, D2L, or D2D units with circuit breakers listed in this section.
- Transformers are compound filled or epoxy filled to completely seal out moisture and dirt.

Certifications and Compliances:

• NEC/CEC:

Class I, Division 2, Group Bt, C, D

NEMA/EEMAC: 3, 4‡, 7B†CD (Division 2), 12

• UL Standard: 67, 1604

• CSA Standard: C22.2 No. 213

Standard Materials:

- Frames structural aluminum
- Mounting hardware stainless steel
- Transformer enclosure sheet steel,
- For panelboard materials, see individual listing pages

Standard Finishes:

- Aluminum natural
- Stainless steel natural
- Sheet steel primed and painted
- For panelboard finishes, see individual listing pages

Options:

- Material structural steel frames
- Finish primed and painted or hot dip galvanized
- · For options available on the panelboards themselves, see individual listings pages

Size Ranges:

Transformers

Single or three-phase - 5kVA to 30kVA

Panelboards

Max. No. of Breakers

Single- pole	Two- pole	Three- pole
24	12	
42	20	14
30	14	10
	pole 24 42	pole pole 24 12 42 20

Electrical Rating Ranges:

- Transformers 480 volt primary
- Transformers 120 / 240 volt secondary
- Panelboards see individual listings

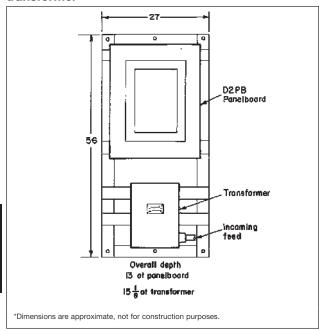
[†] D2L, D2D with GB suffix and breather and drain holes plugged. ‡ NEMA 4 hosetight with breather and drain openings plugged.

D2PB, D2L, D2D Circuit Breaker Panelboard Assemblies 1A

with Transformer

Cl. I, Div. 2, Groups B†, C, D NEMA 3, 4‡, 7B†CD (Div. 2), 12 Wet Locations Watertight‡

Typical Assembly* 24 Circuit D2PB panelboard with single-phase transformer



Ordering Check List

1. Select the D2PB, D2L, D2D panelboard required, together with
any applicable options or special features. See individual listing
pages.

pagoo.			
Cat. No.			

2.	Provide	the	following	information,	necessary	for	selection	of the	Э
	correct	tran	sformer:						

correct transformer.
Primary voltage
Secondary voltage
kVA rating
Taps – number and percent
Frequency (60 cycle unless otherwise specified)
Single or three-phase
Other requirements

_

GUSC Circuit Breaker Load Centers

with Quicklag® Circuit Breakers

Cl. I, Div. 1 & 2, Groups B†, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

1A

Applications:

GUSC circuit breaker load centers are used in:

- Areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts, and which are subject to weather, dampness and corrosion
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist

For general application and circuit breaker information, see pages 626–627.

Features:

- Compact rectangular enclosures with round threaded covers
- External operating handles can be padlocked in either "ON" or "OFF" positions
- Not furnished with internal wiring as field wiring connections are made directly to circuit breaker line and load terminals.
 To meet varying grounding requirements, an insulated neutral terminal block is provided and is equipped with a removable grounding jumper
- Bodies have 1" vertical throughfeed hubs

Certifications and Compliances:

• NEC:

Class I, Div. 1 & 2, Groups B†, C, D Class II, Div. 1, Groups E, F, G Class II, Div. 2, Groups F, G Class III

- NEMA: 3, 7BCD, 9EFG, 12
- UL Standard: 1203

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers and operating handles copperfree aluminum
- · Operating shafts stainless steel
- Interior parts sheet steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel electrogalvanized with chromate finish



Size Ranges:

Max. No. of Breakers
Single-pole Two-pole

Electrical Rating Ranges:

- Quicklag circuit breakers: single-pole, 240VAC max.; two-pole, 240VAC max.
- Trip ratings: 10, 15, 20, 30 and 40 amp.

Options:

The following special options are available from factory by adding suffix to Cat. No.	:
Description	Suffix
Breather and drain (Class I and Class II)	S198V
Breather and drain (Class I and Class II, Groups F, G)	S454V
Assortment of single and two-pole circuit breakers and trip ratings	Specify

†See listings for catalog numbers which are suitable for use in Group B hazardous locations. Seals must be installed within 11/2" of all conduit openings. Quicklag is a registered trademark of Cutler-Hammer Inc.

1A GUSC Circuit Breaker Load Centers

with Quicklag® Circuit Breakers

Cl. I, Div. 1 & 2, Groups B†, C, D Cl. II, Div. 1, Groups E, F, G

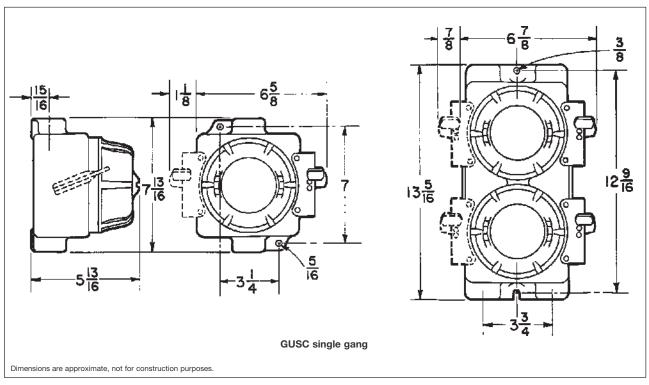
Cl. II, Div. 2, Groups F, G

CI. III

Explosionproof Dust-Ignitionproof Raintight Wet Locations

Circuit Breaker Information			Load Center With Circuit Breaker				
No. of Breakers	Poles	Ampere Rating	Hub Size	Standard Units Cat. #	Group B Units Cat. #		
		10	1	GUSC3110 10	GUSC3110 10 GB		
		15	1	GUSC3110 15	GUSC3110 15 GB		
1	1	20	1	GUSC3110 20	GUSC3110 20 GB		
		30	1	GUSC3110 30	GUSC3110 30 GB		
		40	1	GUSC3110 40	GUSC3110 40 GB		
		10	1	GUSC3210 10	GUSC3210 10 GB		
		15	1	GUSC3210 15	GUSC3210 15 GB		
2	1	20	1	GUSC3210 20	GUSC3210 20 GB		
		30	1	GUSC3210 30	GUSC3210 30 GB		
		40	1	GUSC3210 40	GUSC3210 40 GB		
		10	1	GUSC3120 10	GUSC3120 10 GB		
		15	1	GUSC3120 15	GUSC3120 15 GB		
1	2	20	1	GUSC3120 20	GUSC3120 20 GB		
		30	1	GUSC3120 30	GUSC3120 30 GB		
		40	1	GUSC3120 40	GUSC3120 40 GB		

Dimensions In Inches:



 \uparrow See listings for catalog numbers which are suitable for use in Group B hazardous locations. Seals must be installed within $1\frac{1}{2}$ " of all conduit openings. Quicklag is a registered trademark of Cutler-Hammer Inc.

Factory Sealed Single & Two-Pole Breakers

Cl. I, Div. 2, Groups C, D Cl. II, Div. 2, Groups F, G Corrosion-Resistant **Dust-tight** NEMA 3, 7CD (Div. 2), 9FG (Div. 2), 12 Watertight+ Weatherproof

Applications:

• N2PB panelboards are for use in central control and protection of a large number of feeder or branch circuits and for housing circuit breakers in Class I, Division 2, Groups C & D hazardous

Features:

- Enclosures are made of Krydon®. Eaton's Crouse-Hinds' high impact strength fiberglass-reinforced polyester material with excellent corrosion resistance and stability to heat
- Enclosure access door provided with stainless steel thumb screws for easy access; access door may be padlocked to prevent unauthorized access
- Circuit breakers are contained in compact, individual factory sealed enclosures suitable for Class I, Division 2, Groups C, D hazardous areas

Certifications and Compliances:

- NEMA 3, 7CD (Div. 2), 9FG (Div. 2), 12
- NEC:

Class I, Division 2, Groups C, D Class II, Division 2, Groups F, G

Options:

Description

• Panelboard provided with (12) operating handle lockouts for lockout in ON or OFF positions (any circuit). Stainless steel lockout frame integral to panel faceplate.

N2PB Size 14 x 26 L12 N2PB Size 24 x 26

- Circuit breaker operating handle lockout - order D2PB02
- Assortment of single-pole and two-pole circuit breakers and trip ratings - see listings
- · Grounding plate or bushing see page 677
- Replacement circuit breaker assemblies - see page 627



Circuit breaker panelboard - open view

Electrical Rating Ranges:

Circuit breakers

Suffix

- Single-pole 120/240VAC max.
- Two-pole 120/240VAC max.
- Trip ratings 15, 20 and 30 amp.

Size Ranges:

Panel Designation	Max. No. of E Single-Pole	
N2PB1426	12	6
N2PB2426	24	12

†Watertight, weatherproof with door closed.

Cl. I, Div. 2, Groups C, D Cl. II, Div. 2, Groups F, G Corrosion-Resistant **Dust-tight** NEMA 3, 7CD (Div. 2), 9FG (Div. 2), 12

Factory Sealed Single & Two-Pole Breakers

Ordering Information

Panelboards are available with 15, 20 or 30 ampere circuit breakers. To order a panelboard with all breakers of the same rating, add the desired rating as a suffix to the Cat. No. For example, the 12 circuit N2PB2426-2512 panelboard with all the circuit breakers rated 20 amperes would be ordered as N2PB2426-2512-20.

Panelboards listed below can also be furnished with an assortment of single-pole and two-pole breakers and breaker ratings. To order, the quantities of breakers and ampere ratings are added as suffixes to the Cat. No. The total number of poles will

determine the panel size (24 poles max.), and the wiring systems must be compatible when combining single- and two-pole circuit breakers.

For example, a typical N2PB panelboard with a combination of 5 single-pole 20 ampere, 3 single-pole 30 ampere, and 4 two-pole 30 ampere breakers would be ordered as N2PB2426-2508-520-330-804-30. The total number of poles is 16 and wiring systems 25 and 8 are compatible 4 wire, 3 phase. The N2PB with a main breaker is available up to 100 amps. N2PB with main breaker, add appropriate suffix.

Example: N2PB2426-2512-15 with threepole, 100 amp main circuit breaker would be ordered as N2PB2426-2512-15-3M100. If two-pole main is required, change the number 3 to 2. If a lower trip rating is required, the number will change accordingly. Main breaker housing is positioned on top of panel similar to D2PB main. (See Section 1A.)

					Enclosures with Single-Pole Circuit Breakers			with Two-Pole Breakers
					Wiring System 24	Wiring System 25	Wiring System 3	Wiring System 8
					Mains: 3-Wire	Mains: 4-Wire, 3-Phase	Mains: 3-Wire	Mains: 4-Wire, 3-Phase
Max. N	0.		Enclosure	Main	Branches: 2-Wire	Branches: 2-Wire, 1-Phase	Branches: 3-Wire	Branches: 3-Wire, 1-Phase
of Brea	kers		Only	Lug	Solid Neutral	Solid Neutral	Solid Neutral	Solid Neutral
1 Pole	2 Poles	Panel Size	Cat. #*	Size	Cat. #‡	Cat. #‡	Cat. #‡	Cat. #‡
6 8 10 12	4 5 6	14 x 26 x 8½	N2PB1426	1/0	N2PB1426 2406 ① N2PB1426 2408 ① N2PB1426 2410 ① N2PB1426 2412 ①	N2PB1426 2506 ① N2PB1426 2508 ① N2PB1426 2510 ① N2PB1426 2512 ①	N2PB1426 304 ① N2PB1426 305 ① N2PB1426 306 ①	N2PB1426 804 ① N2PB1426 805 ① N2PB1426 806 ①
12 14 16 18 20 22 24	6 7 8 9 10 11 12	24 x 26 x 8½	N2PB2426	4/0	N2PB2426 2412 ① N2PB2426 2414 ① N2PB2426 2416 ① N2PB2426 2418 ① N2PB2426 2420 ① N2PB2426 2422 ① N2PB2426 2424 ①	N2PB2426 2512 ① N2PB2426 2514 ① N2PB2426 2516 ① N2PB2426 2518 ① N2PB2426 2520 ① N2PB2426 2522 ① N2PB2426 2524 ①	N2PB2426 306 ① N2PB2426 307 ① N2PB2426 308 ① N2PB2426 309 ① N2PB2426 310 ① N2PB2426 311 ① N2PB2426 312 ①	N2PB2426 806 ① N2PB2426 807 ① N2PB2426 808 ① N2PB2426 809 ① N2PB2426 810 ① N2PB2426 811 ① N2PB2426 812 ①

Note on Hubs: Hubs must be ordered separately. See page 677 for listing.

① Add ampere rating. See ordering information above.

[†] Watertight, weatherproof with door closed. ‡ See page 677 for wiring diagrams.

^{*}Accommodates D2CB breakers. Includes complete interiors, wiring system must be specified. Example: N2PB2426 with wiring system 25 would be ordered as N2PB2426-25.

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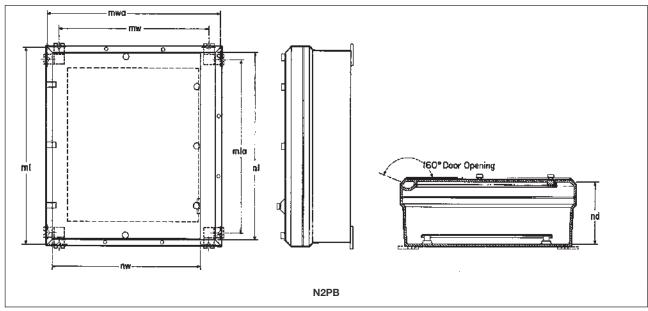
Cl. I, Div. 2, Groups C, D Cl. II, Div. 2, Groups F, G Corrosion-Resistant Dust-tight

Factory Sealed Single & Two-Pole Breakers

NEMA 3, 7CD (Div. 2), 9FG (Div. 2), 12

Dimensions

In Inches:



	Nominal Inside Dimensions			Door Opening Dimensions Mounting Di			g Dimensions	Alternate M Dimensions	
Cat. #	nw	nl	nd	dw	dl	mw	ml	mwa	mla
N2PB1426 N2PB2426	14 24	26 26	8 ¹ / ₂ 8 ¹ / ₂	9 ¹¹ / ₁₆ 19 ¹¹ / ₁₆	23 ¹¹ / ₁₆ 23 ¹¹ / ₁₆	11 ⁷ / ₈ 21 ³ / ₄	27 ¹ / ₄ 27 ¹ / ₄	15³/ ₈ 25¹/ ₄	23³/ ₄ 23³/ ₄

Not to be used for construction purposes unless approved.

† Watertight, weatherproof with door closed.

- In areas made corrosive due to the presence of chemicals, salt water, and/or moisture
- In locations where rough usage, moisture, dust, dirt, and corrosion are a problem
- In areas subject to weather, dampness, or wash down requirements
- To provide, in one compact unit, a centrally controlled switching system for a large number of feeder or branch circuits
- For branch power distribution and circuit protection of motors, valves, pumps, lighting, heat tracing, receptacles, etc.
- In indoor and outdoor installations
- To house thermal-magnetic circuit breakers that provide disconnect means, short circuit protection, and thermal time delay overload protection



- Heavy-duty welded mounting feet provide ease of installation (customer can easily support the panel with bottom mounting feet, while fastening the top feet)
- High quality foam-in-place gasket prevents ingress of water and corrosive agents, reducing panel failure due to moisture/corrosion
- An integral drainage channel allows for opening the panel door without moisture or dust seeping into panel from the top side of the enclosure
- An internal/external ground stud assembly enables rapid and reliable protective ground connection
- Industrial grade NEMA 4X panel designed for harsh environments provides long product life

Certifications and Compliances:

- NEMA 1, 3, 3R, 4, 4X, 12
- NEMA PB1
- UL508A Listed / cUL Certified (CAN/CSA C22.2, No. 14) (UL File E246968)
- UL67 components
- UL489/CAN/CSA C22.2, No. 5 circuit breakers



XLPB Panelboard Closed

Standard Materials & Finishes:

- 316L stainless steel or painted sheet steel
- Eaton Pow-R-Line™ chassis
- Eaton Cutler-Hammer™ circuit breakers
- Stainless steel hardware
- · High integrity foam-in-place gasket
- Industrial laminate insulate dead-front cover
- SS316 quarter-turn screw driver entry standard

NEMA 1, 3, 3R, 4, 4X, 12

NEMA PB1 UL/cUL Listed

XLPB Panelboard Open

Electrical Ratings:

- 120/208, 240, 277/480, 480, and 347/600, 600 voltage panels
- 100 and 225 amp rated chassis
- Isolated neutral and ground bars
- Main breakers up to 225 amps
- 12, 18, 24, and 42 circuit panels
- 10kAIC

Panel Capacity:

120/208V (3P 4W)
120/240V (1P 3W)
480V (3P 3W)
277/480V (3P 4W)*
277/480V (3P 4W)
With Main
347/600V (3P 4W)
600V (3P 3W)
Breaker
CSA ONLY
347/600 (3P 4W)

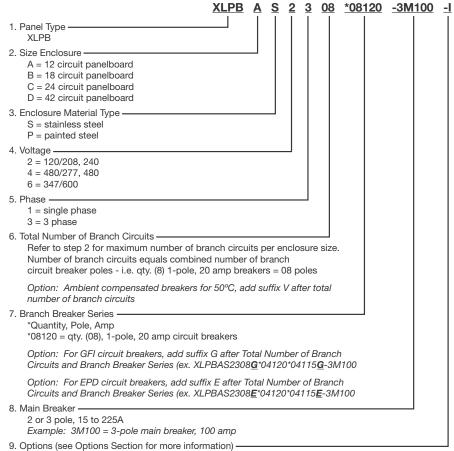
Panel Size	With Main Lug	2-Pole	3-Pole	Main Capacity	Main Capacity	w/GFI/EPD Branch Protection
А	12	10	9	Up to 100 Amp	Up to 225 Amp	Up to 240V*
В	18	16	15	Up to 100 Amp	Up to 225 Amp	Up to 240V*
С	24	22	21	Up to 100 Amp	Up to 225 Amp	Up to 240V*
D	42	40	39	Up to 100 Amp	Up to 225 Amp	Up to 240V*

Ordering Information:

Example:

- NEMA 4X stainless steel
- 120/208 VAC 3-phase
- (8) 1-pole, 20 amp circuit breakers
- 3-pole, 100 amp main
- Bottom entry (inverted)

Example would be ordered as:

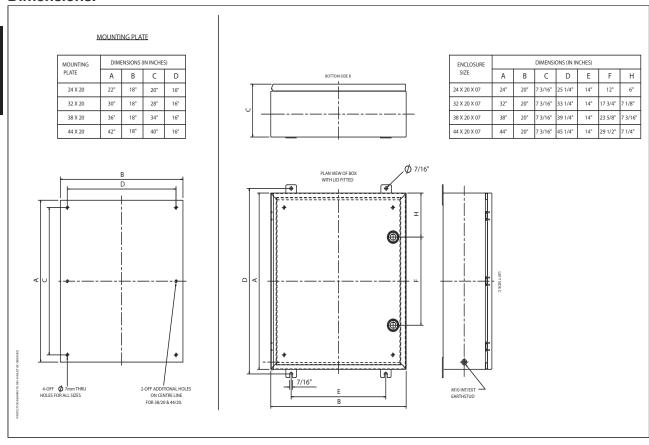


Breathers and drains
Gland plates
Bottom feed inverted panelboard
Enclosure access handles
Key entry door access
External operators
Lighting contactor

Options:

Description Suffix	Where Added
Ambient compensated breakers for 50°CV	After Total Number of Branch Circuits
GFI - 5mA ground fault protection	After Total Number of Branch Circuits and after specific Branch Breaker Series
EPD - 30mA equipment protection	After Total Number of Branch Circuits and after specific Branch Breaker Series
Breathers and drains to reduce moisture and corrosionS756V	End of Catalog Number
Gland plates for ease of installationGP	End of Catalog Number
Bottom feed inverted panelboardl	End of Catalog Number
Enclosure access handles	
Key entry door accessKED	End of Catalog Number
External operatorsContact Factory	
Lighting contactor	

Dimensions:



NLP Circuit Breaker Panelboards With Q0® Breakers

Corrosion-Resistant Dust-tight Watertight* Weatherproof NEMA 3, 12

Applications:

 NLP panelboards are for use in central control and protection of a large number of feeder or branch circuits and for housing circuit breakers.

Features:

- Enclosures are made of Krydon® high impact strength fiberglass-reinforced polyester material with excellent corrosion resistance and stability to heat
- Enclosure access door provided with stainless steel thumb screws for easy access
- Access door may be padlocked to prevent unauthorized access
- · Standard with plug-on circuit breakers

Certifications and Compliances:

- NEMA 3 and 12
- UL Standard: 67

Options:

- Assortment of circuit breaker trip ratings

 specify
- Assortment of single, two and three-pole circuit breakers specify
- Wiring system other than those listed specify
- Ground fault interrupter circuit breakers with built-in ground fault circuit interrupters can be provided. These interrupters cause the breaker to open when a ground fault occurs. Suffix "GFI" should be added after each circuit breaker rating to be supplied with ground fault interrupters

Electrical Rating Ranges:

- QO® circuit breakers, single or two-pole 120/240VAC; three-pole 240VAC
- Trip ratings:

10 to 70 amps, single-pole 10 to 70 amps, two-pole 10 to 60 amps, three-pole

Qwik-Gard® GFI circuit breakers:
 Single-pole – 120 VAC 15 to 30 amps;
 Two-pole – 120/240VAC
 15 to 50 amps

Ordering Information:

Panelboards are available with 10, 15, 20, 25, 30, 35, 40, 45, 50, 60 or 70 ampere circuit breakers. To order a panelboard with all breakers of the same rating, add the desired rating as a suffix to the Cat. No. For example, the 12 circuit NLPQ1426-2512 with all circuit breakers rated 20 amperes would be ordered as NLPQ1426-2512-20.

Panelboards can be furnished with an assortment of breaker ratings. Where all circuit breakers have the same number of poles, assortments may be ordered by adding the quantities and ampere ratings as suffixes to the Cat. No. For example, the 12 circuit NLPQ1426-2512 with six 15 ampere, four 40 ampere and two 50 ampere single-pole circuit breakers would be ordered as NLPQ1426-2512-615-440-250.



Example: An NLPQ panelboard using wiring system 24 with four 15 ampere breakers, two 40 ampere and four 50 ampere breakers and two 15 ampere breakers, one 25 ampere breaker, and one 30 ampere breaker with GFI – Catalog No. NLPQ1426-2414-415-240-450-215GFI-125GFI-130GFI

Enclosures with QON Interiors and QO® Branch

Main Lug Only 3 Wire Branches (200A MLO)

Size Ranges: Max. No. of Branch Circuit Breakers Mains Rating 1-Pole 2-Pole 3-Pole 3w 4w 3w 4w 3w 4w Panel Type Main Lug Only NLPQ1426 200A 24 30 12 14 10

			Circuit Breakers	
No of	Enclosure	Main	1-Pole Branch Circuit Breakers	2-Pole Branch Circuit Breakers
Circuits	Only	Lug‡		
Circuits	Only	Amps	Wiring System 24†	Wiring System 3†
4	NLPQ1426 1	200	NLPQ1426 2404 ①	NLPQ1426 0304 ①
6	NLPQ1426 1	200	NLPQ1426 2406 ①	NLPQ1426 0306 ①
8	NLPQ1426 1	200	NLPQ1426 2408 ①	NLPQ1426 0308 ①
10	NLPQ1426 1	200	NLPQ1426 2410 ①	NLPQ1426 0310 ①
12	NLPQ1426 1	200	NLPQ1426 2412 ①	NLPQ1426 0312 ①
14	NLPQ1426 1	200	NLPQ1426 2414 ①	_
16	NLPQ1426 1	200	NLPQ1426 2416 ①	_
18	NLPQ1426 1	200	NLPQ1426 2418 ①	_
20	NLPQ1426 1	200	NLPQ1426 2420 ①	_
22	NLPQ1426 1	200	NLPQ1426 2422 ①	_
24	NLPQ1426 1	200	NLPQ1426 2424 ①	_

^{*}_Watertight, weatherproof with door closed.

① Insert branch circuit breaker rating desired 10, 15, 20, 25, 30, 35, 40, 45, 50, 60 or 70 amp.

[†] See page 677 for wiring diagrams.

QO and Qwik-Gard are registered trademarks of Square D Company.

NLP Circuit Breaker Panelboards With Q0® Breakers

Corrosion-Resistant Dust-tight Watertight* Weatherproof NEMA 3, 12

4 Wire Branches (200A MLO)

Enclosures with	QON Interiors a	nd QO® Branch	Circuit Breakers
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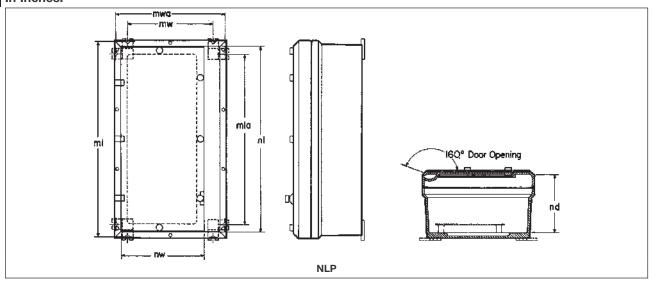
No of	Enclosure	Main Lug‡	1-Pole Branch Circuit Breakers	2-Pole Branch Circuit Breakers	3-Pole Branch Circuit Breakers
Circuits	Only	Amps	Wiring System 25†	Wiring System 28†	Wiring System 11†
4	NLPQ1426 3	200	NLPQ1426 2504 ①	NLPQ1426 2804 ①	NLPQ1426 1104 ①
6	NLPQ1426 3	200	NLPQ1426 2506 ①	NLPQ1426 2806 ①	NLPQ1426 1106 ①
8	NLPQ1426 3	200	NLPQ1426 2508 ①	NLPQ1426 2808 ①	NLPQ1426 1108 ①
10	NLPQ1426 3	200	NLPQ1426 2510 ①	NLPQ1426 2810 ①	NLPQ1426 1110 ①
12	NLPQ1426 3	200	NLPQ1426 2512 ①	NLPQ1426 2812 ①	_
14	NLPQ1426 3	200	NLPQ1426 2514 ①	NLPQ1426 2814 ①	_
16	NLPQ1426 3	200	NLPQ1426 2516 ①	_	_
18	NLPQ1426 3	200	NLPQ1426 2518 ①	_	_
20	NLPQ1426 3	200	NLPQ1426 2520 ①	_	_
22	NLPQ1426 3	200	NLPQ1426 2522 ①	_	_
24	NLPQ1426 3	200	NLPQ1426 2524 ①	_	_
26	NLPQ1426 3	200	NLPQ1426 2526 ①	_	_
28	NLPQ1426 3	200	NLPQ1426 2528 ①	_	_
30	NLPQ1426 3	200	NLPQ1426 2530 ①	_	_

The NLP and NLPQ panelboards accommodate Square D NQOD and QON interiors as follows.

Enclosure 3 Wire Branches 4 Wire Branches NLPQ1426 QON124L200I QON330L200

Note: When ordering enclosures only, interiors and circuit breakers are not included and must be ordered separately from Square D.

Dimensions In Inches:



	Nominal Inside Dimensions		Door Opening Dimensions		Mountin	Mounting Dimensions		Alternate Mounting Dimensions	
Cat. #	nw	nl	nd	dw	dl	mw	ml	mwa	mla
NI P1426	14	26	81/2	911/16	2311/16	117/。	271/4	15³/ _°	233/4

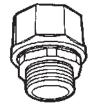
Not to be used for construction purposes unless approved.

Note: Hubs, grounding plates and bushings must be ordered separately. See page 677 for listing.

^{*} Watertight, weatherproof with door closed.
① Insert branch circuit breaker rating desired, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60 or 70 amp. ‡ 200A QON main lugs are #4/0 Cu/Al.
† See page 677 for wiring diagrams.

Hubs

Krydon® material hubs for conduit entrances, in sizes ½" through 3" are available for factory or field installation in all enclosures made of Krydon material. For factory installation, send drawing showing sizes and locations of hubs. Furnished with and gaskets to assure.



Conduit Size	Hole Size	Hub Cat. #
1/2	7/8	NHUB1
3/4	1 1/8	NHUB2
1	13/8	NHUB3
11/4	13/4	NHUB4
11/2	2	NHUB5
2	21/2	NHUB6
21/2	3	NHUB7
3	3 ⁵ / ₈	NHUB8

Standard Materials:

- Up to 1½" *Krydon* material with steel interiors
- 2", 2½" and 3" Krydon material with Feraloy® iron alloy interiors

Standard Finishes:

- Krydon material natural
- Steel electrogalvanized and bleached chromate
- Feraloy iron alloy electrogalvanized

Standard Materials:

- Grounding plates steel
- Grounding bushings steel with thermoplastic insulating throat

Standard Finishes:

• Steel - electrogalvanized

Grounding Plates and Grounding Bushings





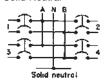
Grounding Plates ('/₂" through 1") and insulated bushings ('/₂" through 3") permit use of the conduit as the grounding circuit. Both types have set screws and ground-wire terminals.

Conduit Size	Grounding Plate Cat. #	Grounding Bushing Cat. #	
1/2	GP1	GLS1	
3/4	GP2	GLS2	
1	GP3	GLS3	
11/4		GLS4	
11/2		GLS5	
2		GLS6	
21/2		GLS7	
3		GLS8	

Wiring Diagrams for Circuit Breaker Panelboards

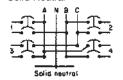
System 3

Mains—3-Wire Branches—3-Wire Breakers—2-Pole Solid Neutral



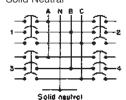
Svstem 8

Mains—4-Wire, 3-Phase Branches—3-Wire, 1-Phase Breakers—2-Pole Solid Neutral



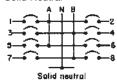
System 11

Mains—4-Wire, 3-Phase Branches—4-Wire, 3-Phase Breakers—3-Pole Solid Neutral



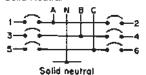
System 24

Mains—3-Wire Branches—2-Wire Breakers—Single-Pole Solid Neutral



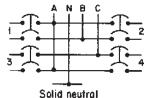
System 25

Mains—4-Wire, 3-Phase Branches—2-Wire Breakers—Single-Pole Solid Neutral



System 28

Mains—4-Wire, 3-Phase Branches—3-Wire, 1-Phase Breakers—2-Pole Solid Neutral



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see page 682
see page 683
see pages 698-699
see pages 701-702
see pages 686-689
see page 693

Application and Selection

Quick Selector Chart

Applications:

 Switches and enclosures are used in hazardous and non-hazardous areas to disconnect motor, lighting and other circuits and prevent arcing of the enclosed switch from igniting hazardous atmospheres.

Quick Selector Chart

Considerations for Selection:

Enclosure Location:

 NEC/CEC and NEMA/EEMAC compliances for hazardous areas and/or wet and dirty locations

Electrical:

Consistency with the functions to be performed

Application:

Selection of appropriate switch and operating mechanism

Options:

- Optional material and finishes available for highly corrosive atmospheres
- Various hub sizes are available to suit particular applications

2**A**

Electrical Rating NEC/CEC & NEMA/EEMAC Switch Switch Max. Max. Max. Fused or **Enclosure** Compliances Amps Volts HP Type Unfused NEMA/EEMAC: 3R, 4, 12 WST 100 600VAC 75 Visible blade Fused & unfused 250VDC Heavy duty EDS, EDSC, Cl. I, Div. 1 & 2, Groups B, C, D; 30 277VAC 2 General use snap Unfused EFD. EFDC Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; NEMA/EEMAC: 3, 7BCD, 9EFG, 12 FSPC Cl. I, Div. 1 & 2, Groups A, B, C, D; 20 277VAC Unfused 2 General use snap Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; CI. III: NEMA/EEMAC: 3, 7ABCD, 9EFG, 12 Cl. I, Div. 1 & 2, Groups C, D; GUSC 30 600VAC 2 General use snap Unfused Cl. II, Div. 1, Groups E, F, G; Cl. II, Div. 2, Groups F, G; CI. III: NEMA/EEMAC: 3, 7CD, 9EFG, 12 FLS Cl. I. Div. 1 & 2. Groups C. D: 100 600VAC 50 Visible blade Unfused Cl. II, Div. 1, Groups E, F, G; Disconnect Cl. II, Div. 2, Groups F, G; CI. III: NEMA/EEMAC: 3, 4, 7CD, 9EFG, 12 Cl. I, Div. 1 & 2, Groups B, C, D; FBM 100 600VAC 75 Visible blade Fused & unfused Cl. II, Div. 1, Groups E, F, G; Disconnect Cl. II, Div. 2, Groups F, G; CI. III: NEMA/EEMAC 3, 4, 7BCD, 9EFG, 12 NRS NEMA/EEMAC: 3, 4X, 12 100 600VAC 75 Fused & unfused Rotary - Disconnect Cl. I, Div. 2, Groups B, C, D; 100 600VAC N2RS 60 Rotary - Disconnect Unfused NEMA: 3, 4X, 12 NST NEMA: 3, 4X, 12 200 600VAC 125 Visible blade Fused & unfused 250VDC Disconnect NEMA/EEMAC: 3R 600VAC 15 Manual 30 Contacts, snap Unfused Contactors GHG Cl. I, Div. 2, Groups A, B, C, D; 180 600VAC 150 Rotary, snap Unfused Cl. II, Div. 1, Groups E, F, G; Cl. I, Zones 1 & 2, Ex de IIB+H, Ex de IIC Cl. I, Div. 1 & 2, Groups B, C, D; 400 Rotary - Disconnect EID 600VAC 350 Fused & unfused Cl. I, Zones 1 & 2; Cl. II, Div. 1, Groups E, F, G; CI. III

16 kg

28 kg

EID Disconnect Assembly

• Provides an explosionproof disconnect

switch assembly for hazardous area

· Incorporates Eaton's Crouse-Hinds' high

integrity manufacturing standards for

reliability and safety in a compact, space-efficient NEMA 4 enclosure

Features and Benefits:

• Can be ordered as enclosure only, allowing for field installation of switch

while maintaining product certification

 NEMA 4X breather and drain** provides a moisture control solution in hose-down

· Small, compact footprint - less mounting

Large red painted aluminum rotary

identified from a distance

handle operator mounted on cover

assembly provides rugged, reliable

• Neoprene cover gasket provides UL

 Stainless steel hinges provide easy access to inside of enclosure for wiring

bottom feed of conductors

 (2) Conduit entries, one on top and one on bottom (EIDA—1" NPT entries, EIDB—1 ½" NPT entries) for easy top or

(2) 1/2" NPT conduit entries, one on top and one on bottom, for field addition of breather and/or drain or for use with auxiliary contacts; †holes come plugged with Eaton's Crouse-Hinds PLG explosionproof as standard

 Provides lockout/tagout capability which complies with OSHA requirements,

allowing for locking in the ON or OFF position for standard maintenance checks

Complies with NEC Article 312 wire bending requirements for max gauge wire, allowing for easy and safe installation, and reliable operation of

and maintenance

performance in the field and allows for

the position of the switch to be easily

Type 4 (hosetight) environmental rating

provide flexible mounting alternatives for

ease of installation; no need to replace the entire enclosure if a mounting foot is

Detachable/adjustable mounting feet

Non-fused

Applications:

electrical systems

applications

space required

Cl. I, Div. 1 & 2, Groups B, C, D Cl. I, Zones 1 & 2 Cl. II, Div. 1, Groups E, F, G Cl. III UL/cUL Listed Enclosure Type 3, 3R, 4, 4X*, 7BCD, 9EFG

Weights:

Options:

Description

36 lbs

62 lbs

Auxiliary Contact (single block) \$784

Auxiliary Contacts (two blocks) \$785

Breather and Drain \$756V

(external only) \$752

External Ground Lug \$214

Epoxy Powder Coat Finish

Epoxy Powder Coat Finish

(internal and external).....

EIDA

EIDB

Certifications and Compliances:

- Class I, Divisions 1 & 2, Groups B, C, D
- Class I, Zones 1 & 2
- · Class II, Division 1, Groups E, F, G
- Class III
- Enclosure Type 3, 3R, 4 or 4X*, 7BCD, 9EFG
- UL Standard 1203
- cUL to CSA C22.2 No. 30

Standard Materials:

- Body and Cover—Copper-free Aluminum
- Gasket-Neoprene
- Cover Bolts—Steel
- Hinges-Stainless Steel
- Mounting Plate Sheet—Aluminum
- Rotary Actuating Handle-Aluminum

Standard Finishes:

- Copper-free Aluminum-Natural
- Steel-Electro-galvanized

Electrical Ratings:

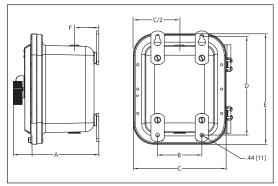
Non-fused HP Rating at:

Amps	200V	208V	240V	480V	600V
30	10	10	10	20	30
60	20	20	20	40	40
100	25	25	30	50	50
200	-	-	75	150	200
400	-	-	125	250	350

Ordering Information:

Switch Rating (Amps)	Enclosure Only	Enclosure with Switch
30	EIDA	EIDA3030
60	EIDA	EIDA3060
100	EIDB	EIDB3100
200	-	EIDC3200‡
400	-	EIDD3400‡

Dimensions:



	EIDA	EIDB
Α	9.65" 245mm	11.75" 298mm
В	5" 127mm	7" 178mm
С	10.47" 266mm	12.53" 318mm
D	11.13" 283mm	15.13" 384mm
Е	12.47" 317mm	16.53" 420mm
F	2.75"	2.75"

product

- **When ordered with S756V suffix.
- †For both drains and auxiliary contacts, please contact factory. ‡Contact Customer Service for additional specifications.



EID Disconnect Assembly

Cl. I, Div. 1 & 2, Groups B, C, D UL/cUL Listed Cl. I. Zones 1 & 2 Cl. II, Div. 1, Groups E, F, G CI. III

Enclosure Type 3, 3R, 4, 4X*, 7BCD, 9EFG

Fused

Applications:

- Provides an explosionproof disconnect switch assembly for hazardous area electrical systems
- Incorporates Eaton's Crouse-Hinds' high integrity manufacturing standards for reliability and safety in a compact, spaceefficient NEMA 4 enclosure

Features and Benefits:

- NEMA 4X breather and drain** provides a moisture control solution in hosedown applications
- Small, compact footprint less mounting space required
- Large red painted aluminum rotary handle operator mounted on cover assembly provides rugged, reliable performance in the field and allows for the position of the switch to be easily identified from a distance
- Neoprene cover gasket provides UL Type 4 (hosetight) environmental rating
- Detachable/adjustable mounting feet provide flexible mounting alternatives for ease of installation; no need to replace the entire enclosure if a mounting foot is broken
- · Stainless steel hinges provide easy access to inside of enclosure for wiring and maintenance
- (2) Conduit entries, one on top and one on bottom for easy top or bottom feed of conductors
- (2) NPT conduit entries, one on top and one on bottom, for field addition of breather and/or drain or for use with auxiliary contacts; †holes come plugged with Eaton's Crouse-Hinds PLG explosionproof as standard
- Provides lockout/tagout capability which complies with OSHA requirements, allowing for locking in the ON or OFF position for standard maintenance checks

Certifications and Compliances:

- Class I, Divisions 1 & 2, Groups B, C, D
- Class I, Zones 1 & 2
- · Class II, Division 1, Groups E, F, G
- Class III
- Enclosure Type 3, 3R, 4 or 4X*, 7BCD, 9EFG
- UL Standard 1203
- cUL to CSA C22.2 No. 30

Standard Materials

- Body and Cover-Copper-free Aluminum
- Gasket-Neoprene
- Cover Bolts—Steel
- Hinges-Stainless Steel
- Mounting Plate Sheet-Aluminum
- Rotary Actuating Handle-Aluminum

Standard Finishes:

• Copper-free Aluminum-Natural

HP Rating at:

• Steel-Electro-galvanized

Electrical Ratings:

Fused

		•	
Amps	240V	480V	600V
30	-	15	20
60	-	30	50
100	-	60	75
200	60	125	150
400	125	250	350



Ordering Information:

Switch (Amps	n Rating Enclosure with Switch
30	EIDAF3030
60	EIDAF3060
100	EIDBF3100
200	EIDCF3200
400	EIDDF3400

Note: Fuses are not included (Type J recommended). Note: Contact Customer Service for additional specifications.

Options:

Description Auxiliary Contact (single block) Auxiliary Contacts (two blocks) Breather and Drain	S785
Epoxy Powder Coat Finish (external only)	.S752
(internal and external)	

*When ordered with S752 or S753 suffix

**When ordered with S756V suffix.

†For both drains and auxiliary contacts, please contact factory.

24

EBM Disconnect Switches and Enclosures

600 VAC Heavy Duty

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 3R, 4±, 4X++, 7BCD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Watertight Wet Locations

Applications:

EBM series hinged cover disconnect switches are used:

- · To disconnect motor, lighting and other
- · In locations made hazardous by the presence of flammable gases or vapors or ignitable dusts.
- Indoors or outdoors in damp, wet and dirty locations, or in areas where frequent washdowns, heavy rain or water spray is prevalent.
- To provide disconnect means and short circuit protection (fusible version).
- On switchracks or other assemblies where it is desired that motor control be centrally located.

Features:

- · Rugged corrosion resistant cast copperfree aluminum construction (less than 0.4 of 1%).
- Switch operating handle is located through the right side wall of the body, permits visual confirmation of correct alignment and operation.
- Total compliance to the wiring end room requirements of the National Electrical Code
- · Semi-clamshell enclosure design, with an external flanged ground joint between body and cover makes interior components more accessible.
- Minimum enclosure-to-enclosure spacing with little interference between the opened cover and an adjacent
- Stainless steel hinges allow the cover to swing well out of the way.
- Stainless steel quick release captive hexhead cover bolts. Stainless steel springs provide clear indication that cover bolts are fully retracted from the body.
- Switch operating handle can be padlocked in either the "ON" or "OFF"
- Neoprene cover gasket permanently attached to the cover seals out moisture.
- Bodies have top and bottom drilled and tapped conduit entrances for power and conduits. Removable reducers are supplied as standard, to accommodate smaller size conduits. All conduit entrances are plugged.
- · Tap on mounting feet.

Certifications and **Compliances:**

• NEC/CEC:

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standards: UL1203
- High A.I.C. Rating (Interrupting Capacity) - For Class I, Div. 1, Groups C & D only

Volt	RMS Symm-Amperes	
240	65,000	
480	50,000	
600	25,000	

- CSA Standard: C22.2 No. 30
- NEMA: 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Standard Materials:

- Body and cover copper-free aluminum
- Operating handle copper-free aluminum
- Operating shaft and bushing stainless steel
- Interior parts sheet steel, electrogalvanized
- Cover bolts, washers and retractile springs - stainless steel
- Hinges stainless steel

Electrical Rating Ranges:

- 600 VAC
- 30, 60 and 100 Amp



Ordering Information:

To order an enclosure complete with the disconnect switch, select the catalog number (based on the necessary rating of the switch), from the listing below.

Enclosures only, without the disconnect switch, can be ordered. Select the catalog number for the required enclosure from the listing below.

	Max. HP Rating				Enclosure				
Amp	AC Polyph	nase		DC using 2 poles only	With Switch	Without Switch			
Rating	200/240V	440/480V	550/600V	250V Max.	600VAC Cat. #	Cat. #			
Non-Fu	sible								
30	10	20	25	71/2	EBMBB FD W30360	EBMBB FD			
60	20	40	60	15	EBMBB FD W60360	EBMBB FD			
100	30	75	75	25	EBMBD FD W10360	EBMBD FD			
Fusible									
30	_	5	71/2	5	EBMBB FD W30361	EBMBB FD			
60	_	15	15	10	EBMBB FD W60361	EBMBB FD			
100	15	25	30	20	EBMBD FD W10361	EBMBD FD			

Options:

• For available options, see pages 494-495.

[‡] Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753.

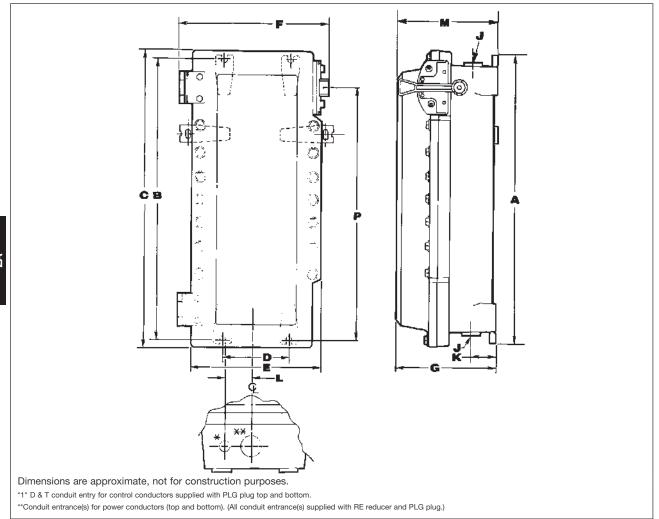
EBM Disconnect Switches 2A and Enclosures

600 VAC Heavy Duty

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G NEMA 3, 3R, 4‡, 4X††, 7BCD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Watertight Wet Locations

Dimensions In Inches:



	Enclosure Only									Entry T Size					
	Cat. # Symbol	Α	В	С	D	E	F	G	D&T†	w/RE	K	L	M	Р	
30 and 60 Amp Frame	EBMBB	В	25.75	24.75	26.90	6.00	13.03	14.46	10.25	2"	1.5"	3.25	3.13	10.25	22.00
100 Amp Frame	EBMBD	D	28.25	27.25	29.40	6.00	13.03	14.46	10.25	3"	2.5"	3.25	3.13	10.25	24.50

** | Canduit

[‡] Enclosure not suitable for NEMA 4 or 4X with cover mounted operators. ††With S752 or S753. †Drilled & Tapped.

FLS Enclosed Switches

FLS heavy duty enclosed switches are

• In a rigid metallic conduit system for

from equipment being controlled

• As disconnect switches for main feed or

 In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas and metal handling or finishing areas where

atmosphere may contain hazardous

• In non-hazardous area where sturdy, durable enclosures are required

• Enclosed devices are unfused, visible

 Interior of the enclosures is readily accessible through threaded cover openings at each end, set at an angle to

 blade motor circuit switches
 Rugged cast metal enclosures with mounting lugs and taper tapped hubs with integral bushings, in through feed

individual motor control

external to the enclosure

gases and/or dust

Features:

arrangement

facilitate wiring

surface mounting adjacent to or remote

• To prevent arcing of the enclosed switch from causing ignition of a specific

hazardous atmosphere, or atmospheres,

Heavy Duty

Applications:

CI. I, Div. 1 & 2, Groups C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7CD, 9EFG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

Standard Materials:

- Body copper-free aluminum
- Cover copper-free aluminum
- Shaft stainless steel
- Shaft bushings stainless steel

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural

Options:

Description	Suffix
Ground/neutral wire stud provided	S168
Breather and Drain	S198V
Auxiliary switch: 1A, 1B	S784
Auxiliary switch: 2A, 2B	S785

Size Ranges:

 Hub size – 1½" through feed with top entry having a PLG5 plug

Ordering Information:

Furnished with Non-Fusible, Visible Blade Motor Circuit Switch Switch Ratings

	Maximum HP - 3 Phase Volts AC					Through Feed	Enclosure With 3-Pole Switch	
Amperes	125	240	480	600	250 VDC	Hub Size	Cat. #	
30	5	10	20	25	7.5	11/2"	FLS30364 1 33	
60	10	20	40	60	15	11/2"	FLS60364 1 44	
100	15	30	75	75	25	11/2"	FLS10364 1 55	

Threaded covers and a threaded type operating shaft and bushing provide quick assembly and easy maintenance Dimensions In Inches:

- A padlock can be used to lock the operating handle in an "ON" or "OFF" position
- Body and cover threads treated with lubricant at factory to provide raintightness

Certifications and Compliances:

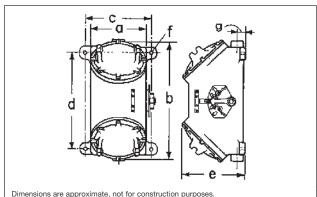
• NEC:

Class I, Divisions 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

• NEMA: 3, 4, 7CD, 9EFG, 12

• UL Standard: 1203





а	b	С	d	е	f	g	
71/2	131/8	81/2	93/4	91/8	7/16	13/4	

10, 20, 40, 80, 125 and 180 Amp 600VAC Non-metallic Enclosure cCSAus Certified Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zones 1 and 2, AEx de IIC, T6 Cl. II, Div. 1, Groups E, F, G (CSA) Cl. II, Div. 2, Groups F, G ATEX Approved Ex de IIC, T6, Zones 1 and 2, IP66

Applications:

Explosion Protected Disconnect Switches are used in a metallic conduit or cable system for surface mounting to control motor, lighting, and other circuits and:

- · For individual motor control
- Are used to prevent arcing internal to the enclosed switch from causing ignition of a specific hazardous atmosphere or atmospheres
- Are designed for industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, and finishing areas where sturdy, durable enclosures are required

Features:

- Explosion protected factory sealed motor circuit switches.
- Innovative break-line in cover allows full wiring access, making installation quick and easy.
- High-impact enclosure is designed for excellent corrosion resistance and will not warp from hot or cold water.
- Tongue-in-groove seal guarantees IP66 rating and eliminates possibility of accidental opening or leakage.
- Lockable handle meets OSHA lockout/ tagout requirements.
- Molded-in-place mounting feet provide a water channel between wall and enclosure.
- Large rotary handle provides easy gripping with gloved hands.
- Captive cover screws prevent water exposure and possible corrosion.

Certifications and Compliances:

- cCSAus Certified
- Class I, Division 2, Groups A, B, C, D
- Class I, Zones 1 and 2, AEx de IIC, T6
- Class II, Division 1, Groups E, F, G (CSA)
- Class II, Division 2, Groups F, G
- ATEX Approved PTB
- Ex de IIC, T6, Zones 1 and 2A, IP66
- GOST-R and GOST-K
- CSA Standard: C22.2 No.14
- NEMA 4X
- IP66



Standard Materials:

Enclosure

10A: Impact-resistance thermoplastic 20A – 180A: Fiberglass-reinforced polyester Non-metallic, corrosion resistance Increased safety Ex-e protection Impact Resistance NEMA 4X, IP66 Protection Enclosure meets UL 94-V0 UV Rated

- Enclosure Gasket Silicon
- Handle Impact-resistant thermoplastic
- Cover Screws Stainless steel
- Conduit Entries: Zinc Myers™ Hubs

Electrical Rating Ranges:

	Horsepower Rat	tings:	
	240 VAC	600 VAC	
10A	0.75	_	
20A	14.3	12.2	
40A	20	15	
80A	50	30	
125A	40	75	
180A	40	75	
	20A 40A 80A 125A	240 VAC 10A 0.75 20A 14.3 40A 20 80A 50 125A 40	10A 0.75 - 20A 14.3 12.2 40A 20 15 80A 50 30 125A 40 75

Explosion Protected Disconnect Switches

10, 20, 40, 80, 125 and 180 Amp 600VAC Non-metallic Enclosure cCSAus Certified Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zones 1 and 2, AEx de IIC, T6 Cl. II, Div. 1, Groups E, F, G (CSA) Cl. II, Div. 2, Groups F, G ATEX Approved Ex de IIC, T6, Zones 1 and 2, IP66

Ordering Info	ormation:				
· ·	10 AMP	20 AMP		40 AMP	
Pole	3 Pole	3 Pole	6 Pole	3 Pole	6 Pole
Rated Voltage	500 V	690 V	690 V	690 V	690 V
Auxiliary Contact	1 NO, making – lagging breaking – leading	1 NO, making – lagging breaking – leading	1 NC	1 NO, making – lagging breaking – leading	1 NC
Auxiliary Connection	14 AWG 2 x 2.5 mm ²	12 AWG 2 x 4 mm ²	12 AWG 2 x 4 mm²	12 AWG 2 x 16 mm ²	12 AWG 2 x 16 mm²
Connection Terminals	14 AWG	12 AWG	12 AWG	6 AWG	6 AWG
Conduit Entries	1 x 3/4"	2 x 3/4"	2 x ³ / ₄ "	2 x 3/4"	2 x 1"
Cat. #	GHG 261 0005 L0002	GHG 262 2301 L0003	GHG 262 2601 L0002	GHG 263 2301 L0002	GHG 263 0050 L0002
Weight	0.55 kg 1.2 lbs.	1.5 kg 3.3 lbs.	2.3 kg 5.1 lbs.	2.3 kg 5.1 lbs.	6.5 kg 14.3 lbs.
Dimensions	See Figure 1	See Figure 2	See Figure 3	See Figure 4	See Figure 5
Wall Mounting Plate	GHG6101953R0101	GHG 610 1953 R0104	GHG 610 1953 R0118	GHG 610 1953 R0118	not required

	80 AMP		125 AMP	180 AMP	
Pole	3 Pole	6 Pole	3 Pole	3 Pole	
Rated Voltage	690 V	690 V	690 V	690 V	
Auxiliary Contact	1 NO, making – lagging breaking – leading	1 NC 1 NO, making – lagging breaking – leading		1 NO, making – lagging breaking – leading	
Auxiliary Connection	12 AWG 2 x 50 mm²	12 AWG 2 x 50 mm²	12 AWG 1 x 70 mm²	12 AWG 1 x 120 mm ²	
Connection Terminals	2 AWG	2 AWG	2 / 0 AWG	4 / 0 AWG	
Conduit Entries	2 x 1½"	2 x 1½"	2 x 1½"	2 x 2"	
Cat. #	GHG 264 0020 L0017	GHG 264 0021 L0002	GHG 265 0010 L0003	GHG 266 0006 L0002	
Weight	6.5 kg 14.3 lbs.	9.0 kg 19.8 lbs.	16.0 kg 35.2 lbs.	16.5 kg 36.3 lbs.	
Dimensions	See Figure 6	See Figure 7	See Figure 8	See Figure 8	
Wall Mounting Plate	not required	not required	not required	not required	

For Variable Speed, Three Phase Drives

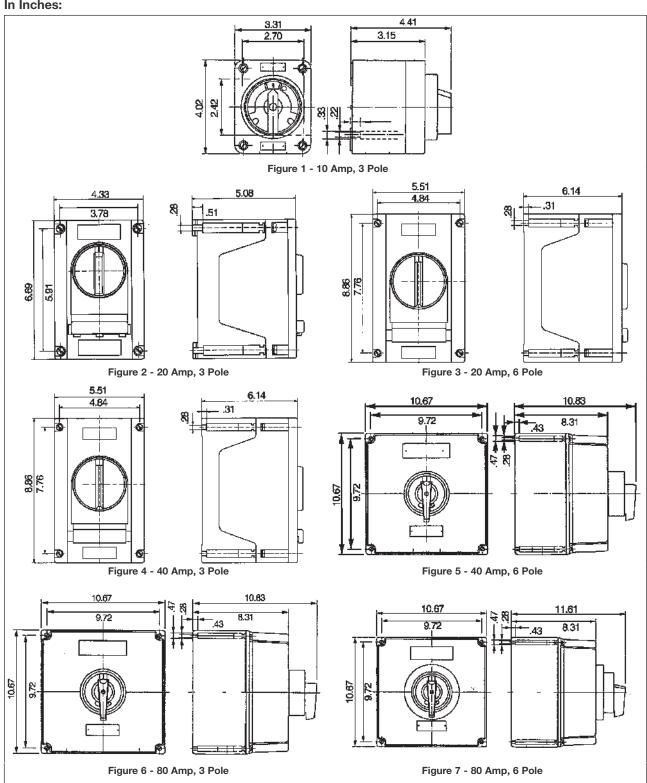
·	20 AMP	40 AMP	80 AMP
Pole	3 Pole	3 Pole	3 Pole
Rated Voltage	690 V	690 V	690 V
Auxiliary Contact	1 NO, making – lagging breaking – leading	1 NO, making – lagging breaking – leading	1 NO, making – lagging breaking – leading
Auxiliary Connection	12 AWG 2 x 4 mm ²	6 AWG 2 x 16 mm ²	2 AWG 2 x 35 mm ²
Connection Terminals	12 AWG	6 AWG	2 AWG
Conduit Entries	2 x ³ / ₄ "	1 x 1" + 1 x ½"	1 x 1½" + 1 x ½"
Cat. #	GHG 262 0014 L0001	GHG 263 0053 L0001	GHG 264 0024 L0001
Weight	1.6 kg 3.5 lbs.	2.3 kg 5.1 lbs.	3.5 kg 7.7 lbs.
Dimensions	See Figure 9	See Figure 10	See Figure 11
Wall Mounting Plate	GHG 610 1953 R0118	GHG 610 1953 R0118	GHG6101953R0110

Switches can be mounted directly onto a wall. The optional wall mounting plate offers a more convenient method of mounting.

2A Explosion Protected Disconnect Switches

10, 20, 40, 80, 125 and 180 Amp 600VAC Non-metallic Enclosure cCSAus Certified Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zones 1 and 2, AEx de IIC, T6 Cl. II, Div. 1, Groups E, F, G (CSA) Cl. II, Div. 2, Groups F, G ATEX Approved Ex de IIC, T6, Zones 1 and 2, IP66

Dimensions In Inches:



Explosion Protected Disconnect Switches

10, 20, 40, 80, 125 and 180 Amp 600VAC Non-metallic Enclosure cCSAus Certified
Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zones 1 and 2, AEx de IIC, T6
Cl. II, Div. 1, Groups E, F, G (CSA)
Cl. II, Div. 2, Groups F, G
ATEX Approved
Ex de IIC, T6, Zones 1 and 2, IP66

Dimensions

In Inches:

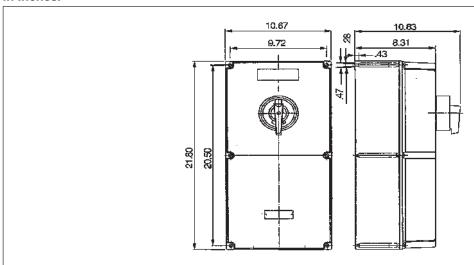


Figure 8 - 125 Amp, 3 Pole 180 Amp, 3 Pole

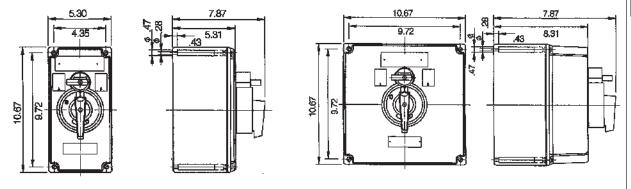


Figure 9 - 20 Amp, 3 Phase Variable Speed

Figure 10 - 40 Amp, 6 Phase Variable Speed

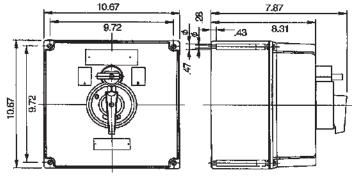


Figure 11 - 80 Amp, 3 Phase Variable Speed

Heavy-Duty

Cl. I, Div. 2, Groups B, C, D NEMA 3, 4X, 7 (B, C, D Div. 2), 12 Watertight Dust-tight Factory Sealed

Applications:

N2RS heavy-duty enclosed switches are used:

- In a rigid metallic conduit or cable system for surface mounting adjacent to or remote from equipment being controlled.
- · For individual motor control.
- To prevent arcing internal to the enclosed switch from causing ignition of a specific hazardous atmosphere, or atmospheres.
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, and finishing areas where atmospheres may contain hazardous gases.
- In non-hazardous areas where sturdy, durable enclosures are required.
- When controlling motor, lighting and other circuits.

Features:

- Enclosed devices are unfused, factory sealed motor circuit switches.
- Exceeds NEC® wiring end room requirements for ease of installation.
- RSWP factory sealed industrial control switch, no external seals are required.
- Enclosure is made of Krydon® highimpact strength fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat.
- Krydon material hubs with integral bushings, for dead-end or through-feed arrangements are supplied.
- Krydon material mounting feet supplied.
- Suitable for wash down and corrosive areas (Type 4X).
- A padlock can be used to lock the operating handle in the "OFF" position.
- Rotary actuator with snap action.
- Unitized, strong and durable construction provides longer service life for equipment.
- Factory sealed 10A, 600 VAC auxiliary contact switch provided.

Certifications and Compliances:

• NEC:

Class I, Division 2, Groups B, C, D

- NEMA: 3, 4X, 7 (B, C, D Div. 2), 12
- UL Standard: 508, 1604
- cUL to CSA Standard C22.2 No.213
- IP65

Standard Materials:

- Enclosure Krydon material
- External Hardware Stainless Steel
- Operating Handle Nylon

Size Ranges:

• Hub size:

(2) 1½" (30, 60 amps) (2) 2½" (100 amps)

Krydon material hubs included (not mounted)



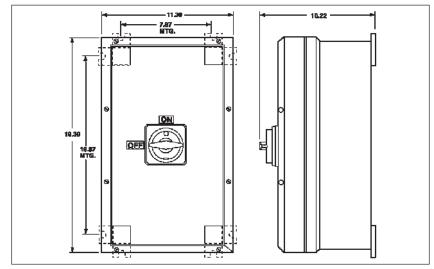
Ordering Information

Furnished with Non-Fusible, Factory Sealed Motor Circuit Switch Switch Ratings

	Maxim	um HP – 3 l	Phase Volts AC	Enclosure with 3-Pole Switch		
Amperes	240	480	600	Hub Size	Cat. #	
30	10	20	25	11/2"	N2RS303	
60	15	30	40	11/2"	N2RS603	
100	20	40	60	21/2"	N2RS1003	

Dimensions

In Inches:



GUSC Enclosures

with General Use Snap Switches

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7CD, 9EFG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

GUSC snap switches are used:

- In a rigid metallic conduit system for surface mounting adjacent to or remote from the equipment being controlled
- To prevent arcing of the enclosed switches from causing ignition of a specific hazardous atmosphere, or atmospheres, external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where the atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required

Features:

- Enclosures are of rugged metal construction with mounting lugs and taper tapped hubs with integral bushings, in a through feed or bottom feed arrangement, for connection to the rigid metallic conduit
- Cover is threaded, which provides for fast and proper assembly
- Provided with a threaded operating shaft and bushing
- Provision is made to use a padlock with 1/4" hasp, to lock the operating lever in an "ON" or "OFF" position
- Body and cover threads treated with lubricant at factory to provide raintightness

Certifications and Compliances:

NEC/CEC:

Class I, Div. 1 & 2, Groups C, D Class II, Div. 1, Groups E, F, G Class II, Div. 2, Groups F, G Class III

• NEMA/EEMAC: 3, 7CD, 9EFG, 12

• UL Standard: 1203

• CSA Standard: C22.2, No. 30

Standard Materials:

- Body Feraloy® iron alloy
- Cover copper-free aluminum
- Shaft stainless steel
- Shaft bushing stainless steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Stainless steel natural

Size Ranges:

 Hub size – ³/₄" (through feed arrangement)

Electrical Rating Ranges:

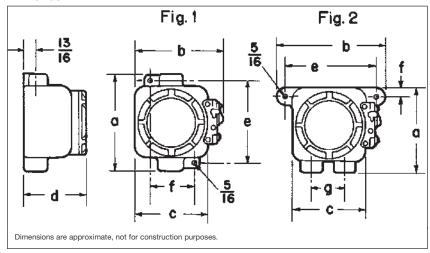
• See below



Ordering Information:

Cat. #	Style	250 (VAC)	600 (VAC)	Horsepower	Hub Size
GUSC2052 AH	2-Pole	30A	20A	2 HP	3/4"
GUSC2013 AH	3-Pole	30A	20A	2 HP	3/4"

Dimensions In Inches:



Туре	Size	а	b	С	d	е	f	g
Through	Feed Hubs - Fig. 1 2, 3-Pole	63/16	61/16	47/8	41/8	5³/8	3	
Two Hul	os at Bottom – Fig. 2 2, 3-Pole	5 ⁷ / ₁₆	6³/ ₈	47/8	41/8	53/8	3/8	21/4

with General Use Snap Switches

Cl. I, Div. 1 & 2, Groups A+, B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II. Div. 2. Groups F. G. CI. III NEMA 3, 7A+BCD, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Applications:

FSPC snap switches are installed in a rigid metallic conduit system for surface mounting adjacent to or remote from equipment being controlled and are used:

- To prevent arcing of enclosed switch from causing ignition of a specific hazardous atmosphere or atmospheres external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required

Features:

- Rugged cast metal enclosure with mounting lugs and taper tapped hubs with integral bushings, in a through feed arrangement.
- Threaded cover to provide fast, proper assembly and easier maintenance.
- Journalled type operating shaft close tolerance fit for flametightness.
- · Body and cover threads treated with lubricant at factory to provide raintightness.

Certifications and Compliances:

• NEC:

FSPC 21 series -

Class I, Divisions 1 & 2, Groups C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

- NEMA: 3, 7CD, 9EFG, 12
- NEC:

FSPC 216 series -

Class I, Divisions 1 & 2, Groups A, B, C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

- NEMA: 3, 7ABCD, 9EFG, 12
- UL Standard: 1203
- CEC:

FSPC 216 series -

Class I, Divisions 1 & 2, Groups C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

- Encl. 3, 5
- CSA Standard C22.2, No. 30

†Suitable for Groups A & B usage ‡30A, 250 VAC; 20A, 600 VAC. §See pages 694-695 for AC-rated switch information

Standard Materials:

- Body Feraloy® iron alloy
- Cover copper-free aluminum
- Shaft stainless steel
- Bushing stainless steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Stainless steel natural



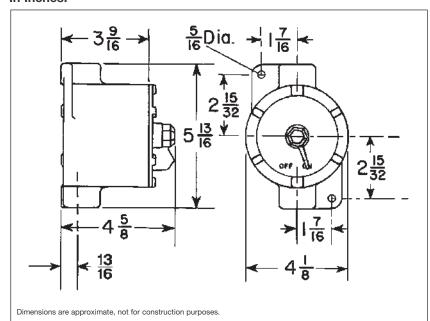
Ordering Information:

Switch Information

Enclosure	varith.	Curitah
Enclosure	WILLI	SWILCH

		Amperes			
Hub Size	Style	120VAC§	277VAC§	Cat. #	Cat. # †
3/4	1-pole	20	20	FSPC21	FSPC216
3/4	2-pole	20	20	FSPC22	FSPC226
3/4	3-pole	‡	‡	FSPC230	FSPC2306
3/4	3-way	20	20	FSPC23	FSPC236

Dimensions In Inches:



Applications:

GHG273 series of switches are used:

- To prevent arcing of enclosed switch from causing ignition of a specific hazardous atmosphere external to the enclosure
- In Division 2, Zone 1 and Zone 2 industrial areas such as: chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators and processing industries, coal processing or handling areas, or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required for both indoor and outdoor installations of light switches

Features:

- Small and compact in design.
- Large grounding plate.
- Captive cover screws.
- Protective collar for inadvertent operation.
- Large actuator surface allows for operation while wearing work gloves.
- Labyrinth seal to guarantee the degree of protection IP66.
- The toggle has a luminescent label to locate switch in dark areas.
- Cable entry from the top is made possible by turning the base.

Certifications and Compliances:

- cCSAus Listed
- Class I, Division 2, Groups A, B, C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 1, Groups F, G
- Class I, Zone 1 & 2, EEx de IIC T6
- Class I, Zone 1 & 2, AEx de IIC T6
- Class I, Zone 1 & 2, Ex de IIC T6
- PTB Certificate of Conformity Ex-91.C.1017
- IP66

Standard Materials:

- Body and cover low temperature, impact-resistant thermoplastic
- Shaft and screws stainless steel
- Grounding plate brass

Standard Finishes:

- Thermoplastic natural
- Stainless steel natural
- Brass nickel plate

Electrical Ratings:

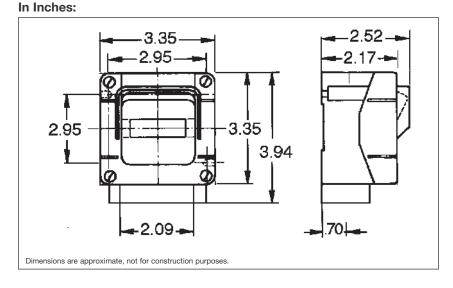
Voltage 250VAC 50 / 60 Hz Current 16 Amps



Ordering Information

Cat. #	Contact Arrangement	Description	Entry Size
GHG 273 2000 L0005	1-1m	2-pole	1 x ½" NPT
GHG 273 2000 L0006		2-pole	1 x ¾" NPT
GHG 273 6000 L0001	7,7,1	3-way	1 x ½" NPT
GHG 273 6000 L0002		3-way	1 x ¾" NPT

Dimensions





2A EDS and EFD Enclosures

with General Use Snap Switches Front Operated

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Applications:

EDS and EFD enclosures are installed in a rigid metallic conduit system for surface mounting adjacent to or remote from equipment being controlled and are used:

- To prevent arcing of enclosed switch from causing ignition of a specific hazardous atmosphere or atmospheres external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required

Features:

- · Small and compact in design.
- Used with snap switches.
- Mounting lugs and taper tapped hubs with integral bushings.
- Large machine screws for fastening covers to bodies.
- Lockout hole for padlock having 1/4" hasp is provided.
- Threaded type shafts and bushings are used to insure flame tightness.

Certifications and Compliances:

NEC/CEC:

Class I, Divisions 1 & 2, Groups B*, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• NEMA/EEMAC: 3, 7B*CD, 9EFG, 12

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies and covers Feraloy® iron alloy
- Shafts stainless steel
- Shaft bushings stainless steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Stainless steel natural

Options:

Description
 Two or three gang bodies can be supplied with combinations of devices listed for one gang enclosures – Refer to modular listing, section 4C

Class I Group B, NEMA 7B – see listing pages
 Bodies and Covers: copper-free aluminum
 SA

Flush wall mounting cover with ½" overhang – single gang only – dull black instrument finish S173



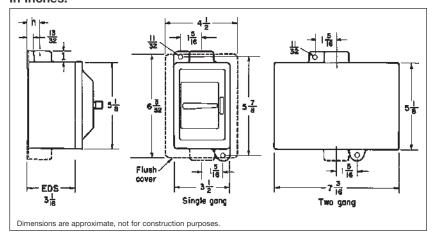
EDS Enclosed Snap Switch

Electrical Ratings

Complies with U.L. snap switch test requirements as follows:

Type of Test	AC-Rated (only) Switch
Overload	Rated Amp. +380%
	Power Factor .40 – .50
	100 cycles, 6 – 10 cycles per minute
Non-Inductive	10,000 cycles, 18 – 24 cycles per minute at rated current – .98
Endurance	min. P.F.
Inductive Endurance	10,000 cycles, 18 – 24 cycles per minute – .75 – .80 P.F.
Tungsten Filament Lamp Endurance	10,000 cycles, 6 – 10 cycles per minute at rated current and 120 volts
Temperature Rise	Not to exceed 30°C
Dielectric Withstand	1500 volts

Dimensions In Inches:



Hub Size	Dim. "h"	Dim. "I"
3/4	7/8	13/16
1	1	15/16

*Class I, Group B

All units listed on this page can be modified for Class I, Group B usage. Add suffix GB to the catalog number. Example: EDS2129-GB. Seals must be installed within 11/2" of each conduit opening in Division 1.

EDS and EFD Enclosures

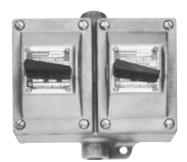
with General Use Snap Switches **Front Operated**

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG, 12

Explosionproof Dust-Ignitionproof Raintight Wet Locations



Dead end



Through feed

Ordering Information:

		Amperes§	<u> </u>	Single Gang			Two Gang ■	
Hub Size	Style	120VAC	277VAC	Dead End Cat. #	Through Feed Cat. #	Replacement Switch	Dead End Cat. #	Through Feed Cat. #
3/4	1-pole	20	20	EDS2129	EDSC2129†	SW5	EDS2229	EDSC2229†
3/4	2-pole	20	20	EDS218	EDSC218†	SW6		EDSC228†
3/4	3-pole	‡ 0	‡	EDS2123	EDSC2123	0206500		EDSC2223
3/4	3-way	20	20	EDS2130	EDSC2130	SW7	EDS2230	EDSC2230
3/4	4-way	20	20	EDS2140	EDSC2140	SW8		EDSC2240
1 1 1	1-pole 2-pole 3-pole 3-way	20 20 ‡ © 20	20 20 ‡ 20	EDS3129 EDS318 EDS3123 EDS3130	EDSC3129† EDSC318† EDSC3123 EDSC3130	SW5 SW6 0206500 SW7	EDS3229 EDS328 EDS3230	EDSC3229† EDSC328† EDSC3223 EDSC3230
1 1 1	4-way 1-pole 2-pole 3-way	20 30 o 30 o 30 o	20 30 30 30	EDS3140 EFD3591 EFD3593 EFD3594	EDSC3140 EFDC3591† EFDC3593† EFDC3594	SW8 AH3991* AH3992* AH3993*	EDS3240 EFD3691 EFD3694	EDSC3240 EFDC3691† EFDC3693† EFDC3694

*Class I, Group B: All units listed on this page can be modified for Class I, Group B usage. Add suffix GB to the catalog number. Example: EDS2129-GB. Seals must be installed within 1½" of each conduit opening in Division 1.

†ON-OFF standard marking for 1-pole and 2-pole units ±15A, 125 VAC; 10A, 250 VAC

See table on pages 694–695 for AC-rated switch information.

Combinations of switches can be furnished.

*Purchase from Eaton's Wiring Devices.

*Post factory sealed.

Applications:

WST heavy duty enclosed switches are used in conduit systems:

- · As a means of disconnecting motors, lighting and power circuits. A fusible type switch, when used, also provides for short circuit protection
- Indoors or outdoors in industrial areas, subways, railroad facilities or any other area that is subjected to dust, dirt, chemical vapors or moisture (rain or
- Either pole-mounted or on flat surfaces

Features:

- Enclosure, handle and other exterior parts are lightweight and corrosion resistant.
- Insulated groundable type terminal block for grounded or ungrounded neutral supplied.
- Mounting lugs may be rotated 90 degrees or moved to the vertical centerline position for pole-mounting.
- Side hinged cover is retained in a closed position by compression spring drawpull catches, which permits the opening or closing of the cover without having to use any tools. Lower cover latch is equipped for padlocking.
- The cover is interlocked with the body and operating mechanism to prevent the opening of the enclosure, except when the switch is in the "OFF" position.
- · The operating handle may be padlocked in the "ON" or "OFF" position, thereby preventing unauthorized operation of the switch and/or opening of the enclosure. Up to three padlocks may be used.
- · Switches are NEMA type HD heavy duty with visible blades, a quick make-andbreak mechanism with reinforced, positive pressure-type blade and jaw construction. Fusible types have fuse clips with steel reinforcing springs of positive pressure type. Pressure connectors are used for wire connection.

Certifications and Compliances:

• NEMA: 3R, 4, 12

UL Standard: 98

CSA Standard: C22.2 Nos. 4 & 14

Standard Materials:

- Enclosure copper-free aluminum
- Operating handle copper-free aluminum
- Other exterior parts stainless steel

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural

Options:

The following special options are available by adding suffix Cat. No.:

Description

Auxiliary switch, 600VAC-DC heavy duty pushbutton station rating, can be supplied, and its contacts will close after switch contacts close and open before switch opens.....

S483

Suffix

Size Ranges:

- Conduit openings for 1" 11/2" inclusive are arranged for through feed. Removal of the threaded bushings permits use of the next larger conduit size.
- Other sizes and arrangements are available. Detailed information on reauest.



WST shown open

Electrical Rating Ranges:

0401/40

- 2 and 3-pole; fusible or non-fusible; 240VAC, 600VAC and 250VDC
- 30, 60 and 100 amperes
- 3 to 75 hp

Ordering Information:

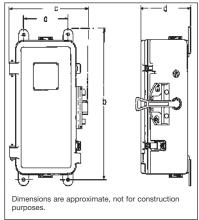
	Conduit	Standard I	HP Rating		240VAC 600VAC/250VDC
Amps	Opening	240VAC	250VDC	600VAC	Cat. #
2-Pole	No Fuse				
30	1	3	5	10	WST30254
60	11/4	10	10	25	WST60254
100	11/2	15	20	40	WST10254
3-Pole	No Fuse				
30	1	71/2	5	20	WST30354
60	11/4	15	10	50	WST60354
100	11/2	30	20	75	WST10354
2-Pole	Fusible†				
30	1	3	5	10	WST3025‡
60	11/4	10	10	25	WST6025‡
100	11/2	15	20	40	WST10025‡
3-Pole	Fusible†				
30	1	71/2	5	20	WST3035‡
60	11/4	15	10	50	WST6035‡
100	11/2	30	20	75	WST10035‡

†Cartridge fuses are not included. ‡Arranged for NEC Class H fuses. May be field converted to NEC Class J fuses.

Approximate Dimensions

Amps	а	b	С	d
30	69/16	201/16	113/4	71/4
60	69/16	201/16	123/4	71/4
100	99/16	265/16	147/8	81/4

Dimensions In Inches:



Crouse-Hinds

W2ST Enclosed Switches

Heavy Duty 30, 60, 100 Amp Cl. I, Div. 2, Groups B, C, D NEMA 3.12 Raintight

Applications:

W2ST Factory Sealed Industrial Control Switches are used:

- In hazardous areas rated Class I, Division 2, Groups B, C and D
- In a rigid metallic conduit or cable system
- · For surface or flush mounting adjacent to or remote from equipment being controlled
- In industrial applications such as chemical plants, wastewater treatment plants, oil and gas refineries, steel mills or any other areas where atmospheres may contain hazardous gases
- When controlling motors, pumps, valves, lighting and other circuits

Features:

- · Enclosed devices are unfused, factory sealed motor circuit switches
- Exceeds NEC® wiring end room requirements for ease of wiring
- RSWP factory sealed industrial control switch, no external seals are required
- The cover is interlocked with the body and operating mechanism to prevent the opening of the enclosure, except when the switch is in the "OFF" position
- Mounting lugs may be rotated 90° or moved to the vertical centerline portion for pole mounting
- Side hinged covers are retained in a closed position by compression spring draw-pull catches, which permit the opening or closing of the cover without tools
- The switch operating handle may be padlocked in the "ON" or "OFF" position with up to three padlocks

Certifications and Compliances:

- NEC/CEC:
 - Class I, Division 2, Groups B, C and D
- Type: 3 and 12
- UL Standard 698
- cUL to CSA Standard C22.2 No. 14

Standard Materials:

- Enclosure and operating handle copper-free aluminum
- Exterior hardware stainless steel

Options:

Description	Suffix
Auxiliary switch, factory sealed 10A, 600 VAC	. S 483

Electrical Rating Ranges:

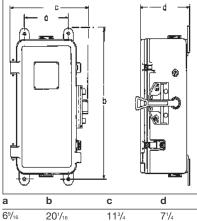
- 3-Pole Switch, No Fuse
- 30, 60 and 100 amperes
- 3 to 60 HP
- 600 VAC

Ordering Information:

Cat. #
W2ST30354
W2ST60354
W2ST10354

Dimensions

In Inches:



24

Horsepower Ratings:

	Single Phase				3 Phase			
W2ST	120V	240V	480 V	600V	120V	240V	480 V	600V
30A	3	7.5	20	25	7.5	15	30	40
60A	3	7.5	20	25	7.5	15	30	40
100A	5	10	25	30	10	20	40	60

30, 40, 60, and 100 Amp 600VAC **Non-metallic Enclosure**

NEMA Type 3, 4X, 12 Corrosion Resistant Watertight

Applications:

- Used in manual "ON" and "OFF" control of single-phase or three-phase AC motors where overload protection is not required or is provided separately.
- Meet NEC Article 430 requirements for a separate disconnect means within sight of all motor loads.
- · Offers the ability to lock directly wired motor loads in the "OFF" position to comply with OSHA lockout/tagout requirements.
- · Meets stringent hosedown requirements.

Features:

- · Enclosures are constructed from high impact thermoplastic, providing superior durability and corrosion resistance.
- Enclosure designed with tapered edges to keep liquids away from cover opening.
- Large pistol-grip handle provides easy gripping even with gloved hands.
- Lockable handle meets OSHA lockout/ tagout requirements. Handles can be locked in the "OFF" position.
- Hidden hinge cover opens to 145°, making installation and maintenance quick and easy.
- · Formed-in-place continuous gasket ensures NEMA 4X full perimeter sealing.
- · Captive cover mounting screws.
- Brass enclosure assembly cover screw inserts allow for higher torque and prevent stripping.

Certifications and Compliances:

All units

- cUL
- NEMA Type 3, 4X, 12

Non-fused Units

- UL 508 40 & 60 amp
- UL 98 100 amp

Fused Units

• UL 98 - Enclosed Switch

Standard Materials:

- Enclosure VALOX® thermoplastic
- Enclosure Gasket Neoprene
- Handle Impact-resistant Thermoplastic
- Cover Screws Stainless Steel
- Screw Assembly Inserts Brass
- Conduit Entries See Table 1*



Ordering Information

Cat. #	Description
NRS30	40A, 600V, no auxiliary contacts
NRS30AX	40A, 600V, with auxiliary contacts
NRS30 FS	30A, 600V, with fusible switch for short circuit protection
NRS30AX FS	30A, 600V, with auxiliary contacts and fusible switch for short circuit protection
NRS60	60A, 600V, no auxiliary contacts
NRS60AX	60A, 600V, with auxiliary contacts
NRS60FS	60A, 600V, with fusible switch for short circuit protection
NRS60AX FS	60A, 600V, with auxiliary contacts and fusible switch for short circuit protection
NRS100	100A, 600V, no auxiliary contacts
NRS100AX	100A, 600V, with auxiliary contacts
NRS100 FS	100A, 600V, with fusible switch for short circuit protection
NRS100AX FS	100A, 600V, with auxiliary contacts and fusible switch for short circuit protection
NRS K1	40A - 100A nonfused auxiliary contact kit
NRS K2	60A - 100A fused auxiliary contact kit
NRS K3	30A fused auxiliary contact kit

Options:

· Auxiliary contacts for use with pilot light of PLC. 10A 600VAC 1 NO. & 1 N.C. Consult Factory.

^{*}Hubs must be ordered separately. See Table 1. VALOX® is a registered trademark of General Electric Co.

Industrial Disconnect Switches

NEMA Type 3, 4X, 12 Corrosion Resistant Watertight

30, 40, 60, and 100 Amp 600VAC Non-metallic Enclosure

Electrical Rating Ranges:

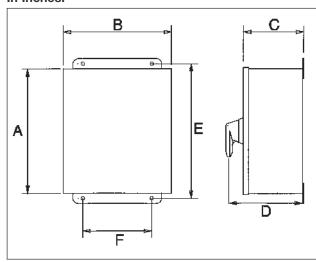
Horsepower Ratings:

Single P	Phase 240V	Three P 208V	hase 240V	480V	6001
120V	240V	208V	240V	48UV	6001/
				4004	600V
1	5	10	10	20	25
2	7.5	15	15	30	30
5	15	25	30	50	50
2	3	7.5	7.5	15	20
_	_	15	15	30	50
_	_	25	30	60	75
	_	2 7.5 5 15	2 7.5 15 5 15 25 2 3 7.5 - 15	2 7.5 15 15 5 15 25 30 2 3 7.5 7.5 - 15 15	2 7.5 15 15 30 5 15 25 30 50 2 3 7.5 7.5 15 - 15 15 30



Dimensions

In Inches:



Enclosure Type	Α	В	С	D	E	F	
40 Amp Nonfused	6.0	6.0	5.9	8.1	6.75	4.0	
60 Amp Nonfused	8.0	6.0	5.9	8.1	8.75	4.0	
100 Amp Nonfused	10.0	8.0	7.9	10.1	10.75	6.0	
30 Amp Fused	10.0	8.0	7.9	10.1	10.75	6.0	
60 Amp Fused	14.0	12.0	7.9	10.1	14.75	8.0	
100 Amp Fused	14.0	12.0	7.9	10.1	14.75	8.0	

Table 1 - Conduit Entries

Ordering Information

Krydon [®] Cat. #	Size	Myers™ Zinc Cat. #	Size	Myers [™] Stainless Cat. #	Steel Size
NHUB1	1/2"	STG 1	1/2"	SSTG 1	1/2"
NHUB2	3/4"	STG 2	3/4"	SSTG 2	3/4"
NHUB3	1"	STG 3	1"	SSTG 3	1"
NHUB4	11/4"	STG 4	11/4"	SSTG 4	11/4"
NHUB5	11/2"	STG 5	11/2"	SSTG 5	11/2"

2A Manual Contactors

AC Only, Full Voltage 30A/40A/60A 600VAC Without Overload Protection

Applications:

Manual Contactors are used:

- For manual starting of motors up to 30 HP
- In damp or wet locations

Features:

- Compact enclosure meets NEMA 3R requirements
- Can be padlocked to help conform to OSHA lockout requirements
- Grounding terminal provides ground for box and cover
- Enclosed switch body does not expose contacts
- Double break butt-type silver alloy contacts provide long life
- Two ½", ¾", 1" knockouts on bottom

Certifications and Compliances:

- UL 508
- CSA Standard: C22.2 No. 14
- NEMA 3R

Standard Materials:

• .060" thick steel enclosure

Standard Finishes:

6810 / 7810 Series:

· Gray baked enamel finish

MC Series:

Polyester urethane

Electrical Rating Ranges:

- 30A/40A/60A 600VAC, two pole, single phase
- 30A/40A/60A 600VAC, three pole, polyphase

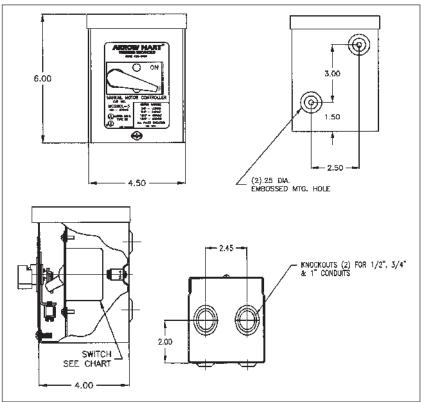


Ordering Information:

		Horsepower				Switch &
Description	Amps 600V	120V	240V	480/ 600V	Switch Cat. #	Enclosure Cat. #
2 pole with screw terminals	30	2	5	7.5	6810U	6810W
3 pole with screw terminals	30	3	7.5	15	7810UD	7810WD
2 pole with screw & clamp terminals	40	3	5	15	MC240C	MC240C-3
2 pole with box lug terminals	40	3	5	15	MC240L	MC240L-3
2 pole with box lug terminals	60	3	5	15	MC260L	MC260L-3
3 pole with screw & clamp terminals	40	3	7.5	15 / 20	MC340C	MC340C-3
3 pole with box lug terminals	40	3	7.5	15 / 20	MC340L	MC340L-3
3 pole with box lug terminals	60	3	7.5	25 / 30	MC360L	MC360L-3

Dimensions

In Inches:



NST Disconnect Switches and Enclosures

600VAC/250VDC Heavy Duty

Corrosion-Resistant **Dust-tight** Watertight Weatherproof NEMA 3, 4X, 12

Applications:

• NST disconnect switches are for use in disconnecting motor, lighting and other

Features:

- Enclosures are made of Krydon®, Eaton's Crouse-Hinds' high impact strength fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat.
- Unitized, strong and durable enclosure construction provides longer service life for equipment.
- Enclosure has hinged access door which opens 160° for easy wiring and maintenance. Three screws for door frame are hidden behind access door.
- · Access door may be padlocked to prevent unauthorized access.

Certifications and Compliances:

- NEMA: 3, 4X and 12
- UL Standard: 98
- CSA Standard: C22.2 No. 4

Electrical Rating Ranges:

- 240 VAC/250 VDC & 600 VAC
- 30, 60, 100 and 200 amp

Ordering Information:

..

To order an enclosure complete with disconnect switch, insert the manufacturer's symbol in the designated positions of the catalog number. Symbols are shown in the footnotes. Enclosures only can be ordered. Select from the listings below.

Options:

Description

- Auxiliary switch, 600 VAC-DC heavy duty pushbutton station rating, can be supplied. Its contacts will close after switch contacts close and open before switch opens...... \$483*
- Hubs (see "Note on Hubs") see page 677
- Grounding plate or bushing see page 677





Disconnect switch with built-in Krydon material handle

Max HP Rating				Enclosure				
	AC Polyphase			DC using 2 poles only				
Amp Rating	200/240V	440/480V	550/600V	250V Max.	With Switch 240VAC/250VDC Cat. #	With Switch 600VAC Cat. #	Without Switch Cat. #	
Non-Fusi	ible							
30	71/2	15	20	5	NST1018F ①30320	NST1018F ①30360	NST1018F ①	
60	15	30	40	10	NST1018F ①60320	NST1018F ①60360	NST1018F ①	
100	30	50	50	20	NST1426F ①10320	NST1426F ①10360	NST1426F ①	
200	50	125	100	40	NST1426F2 ①20320†	NST1426F2 ①20360†	NST1426F2 ①†	
Fusible‡								
30	71/2	15	20	5	NST1018F ①30321	NST1018F ①30361	NST1018F ①	
60	15	30	40	10	NST1018F ①60321	NST1018F ①60361	NST1018F ①	
100	30	50	50	20	NST1426F ①10321	NST1426F ①10361	NST1426F ①	
200	50	125	100	40	NST1426F2 ①20321†	NST1426F2 ①20361†	NST1426F2 ①†	

① Disconnect Switches:

Manufacturer	Symbol	Switch Type
General Electric	G	Type QMW
Square D	D	Class 9422
Cutler-Hammer	W	Type DS

NOTE ON HUBS: The following number and sizes of hubs (not mounted) are included when disconnect switches are ordered complete. If enclosures only are ordered, hubs must be ordered separately (see "Options").

Switch Size	Number Included	Hub Size		
30	2	3/4		
60	2	11/4		
100	2	2		
200	2	21/2		

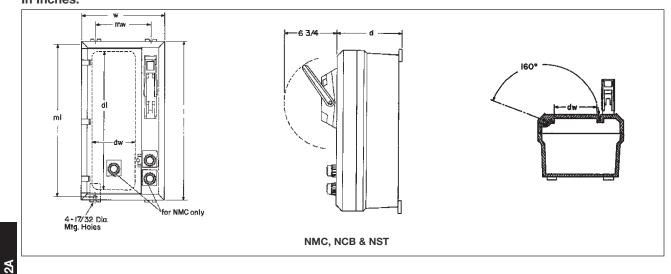
*For Square D switches only.

†For General Electric switches only. Accommodates Class J fuses only. Not available with Cutler-Hammer "W" switch. ‡Fuse clips are arranged for Class H fuses and field modifiable for Class J fuses. For Class R fuses, consult Eaton's Crouse-Hinds.

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

600VAC/250VDC Heavy Duty

Dimensions* In Inches:



	Outside Dimensions			Mounting Dimensions		Door Opening Dimensions	
Cat. #	I	W	d	mw	ml	dl	dw
NST1018	19 ¹³ / ₃₂	1113/32	8 ²³ / ₃₂	7 ⁷ / ₈	193/8	16 ⁷ / ₈	511/16
NST1426	2713/32	1513/32	9 ²³ / ₃₂	11 ⁷ / ₈	271/4	2311/16	911/16

 $[\]ensuremath{^*\text{Dimensions}}$ are approximate, not to be used for construction purposes.

Instruments 3A

Hazardous

Description	Page No.
Clocks	
TCH	see page 711
Telephones	
ETW	see page 712
Ex-ResistTel, FernTel IP	see page 713
Thermostats	
HRC	see page 709
Heaters	
EXH	see pages 704-705
XC	see pages 707-708

Applications:

EXH explosionproof electric heaters are

- In areas made hazardous by the presence of flammable gases and vapors, and combustible dusts
- · For rugged locations including: oil refineries, petrochemical plants, rigs, pumping stations, turbine compressors, pulp and paper mills, coal mines, grain elevators, etc.
- In areas where flammable vapors or gases or highly combustible dusts may be present due to accidental or abnormal conditions
- · For standby heat to prevent process heat loss, or for personnel comfort during maintenance/repair operations

Features:

- Split fan guard for easy access to fan
- · Compact design makes handling during installation easy
- Evacuated cores heat up quickly with even heat distribution
- Larger models offer greater kilowatt range providing more economical means to heat large areas
- Permanently sealed cores improve reliability and make field servicing easier
- · Control box provides easy access for installation and maintenance

Certifications and Compliances:

- Class I, Division 1 & 2, Groups C, D
- Class II, Division 1, Groups E, F, G
- · Class II. Division 2. Groups F. G.
- NEMA: 7CD, 9EFG
- UL Standard: 823
- CSA Standard: C22.2 Nos. 25, 30, 46

Standard Materials and Finishes:

- Fan Aluminum blade; steel spider and hub with % in. (15.875 mm.) bore
- · Core Steel with integral aluminum fins, vacuum charged and hermetically sealed
- Heating Elements Three long life, low watt-density, high grade metal sheathed elements
- Heat Transfer Fluid Long life formulated ethylene glycol and water, freeze protected to -49°F (-45°C)
- Cabinet Material 14 gauge (0.075 in.) (1.90 mm) steel; epoxy coated with 5 stage pre-treatment including iron phosphate
- Conduit Material Heavy walled, 0.122 in (3.1 mm.) steel cadmium plated



Heater shown has optional built-in thermostat.

Options:

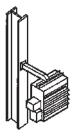
The following special options are available:

Description	Suffix
Built-in disconnect switch	D
Built-in pilot light	Р
3-way switch	S
Built-in thermostat	Т
Built-in HRC1 explosionproof thermostat	HRC

Accessories:

- Basic mounting kit suitable for applications where the support arm can be bolted or welded directly to structural steel or concrete.
 - Cat. # BMK-EXH5 (insert fan size: 12, 16 or 20)
- Wall mounting kit suitable for mounting on Z sections.
 - Cat. # WMK-EXH5 (insert fan size: 12, 16 or 20)
- Hanging mounting kit simple and economical if adequate overhead structure exists. Requires 1/2" pipe, cut and threaded — not supplied. Cat. # HMK-EXH5
- Swivel hanging mount kit swivels 360°. Requires 1/2" pipe, cut and threaded not
- Cat. # SHMK-EXH5 (insert fan size: 12, 16 or 20)
- Pipe mounting kit useful in buildings with insufficient strength to use other types of mounts. requires 3" pipe.

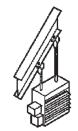
Cat. # PMKEXH5 (insert fan size: 12, 16 or 20)



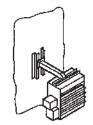
BMK Basic Mounting Kit



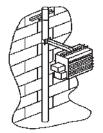
SHMK Swivel Hanging **Mounting Kit**



HMK Hanging Mounting Kit



WMK Wall Mounting Kit



PMK Pipe Mounting Kit **Crouse-Hinds**

by F:T.N

EXH Series Explosionproof Electric Air Heaters

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G NEMA 7CD, 9EFG Explosionproof Dust-Ignitionproof

Specifications:										
•			EXH5	12		EXH5	16		EXH520	
	Nominal kW	3	5	7.5	10	15	20	25	30	35
Maximum Altitude	(ft.)	12,000	8,000	10,000	7,000	10,000	7,000	10,000	7,000	6,000
	(m.)	3,658	2,438	3,048	2,134	3,048	2,134	3,048	2,134	1,829
Air Delivery @70°F	(CFM)	500	500	850	850	1750	1750	3600	3600	3,950
@ 21°C	(m³/hr)	850	850	1444	1444	2973	2973	6116	6116	6,711
Horizontal Throw	(ft.)	15	15	30	30	40	40	70	70	70
	(m.)	4.6	4.6	9.1	9.1	12.2	12.2	21.3	21.3	21.3
Max. Mounting Height	(ft.)	7	7	10	10	10	10	20	20	20
	(m.)	2.1	2.1	3.0	3.0	3.0	3.0	6.1	6.1	6.1
Motor Power	(HP)	1/ ₂	¹/₂	1/ ₂	1/ ₂	¹ / ₂	¹/₂	¹/₂	¹/₂	1/ ₂
	(kW)	0.187	0.187	0.187	0.187	0.187	0.187	0.373	0.373	0.373
Fan Diameter	(in.)	12	12	12	12	16	16	20	20	20
	(mm.)	305	305	305	305	406	406	508	508	508
Net Weight	(lbs.)	140	140	140	140	168	168	201	201	201
	(kg.)	63.5	63.5	63.5	63.5	76.2	76.2	91.2	91.2	91.2
Shipping Weight	(lbs.)	194	194	194	194	218	218	252	252	252
	(kg.)	88	88	88	88	98.9	98.9	114.3	114.3	114.3

Motor Type Explosionproof. Thermally protected. Permanently lubricated ball bearings. 1725 RPM.

Fan Guard Split design with close wiring spacing. 1/4 in. (6.3mm.) probe will not enter.

Heating Elements Three long-life, low watt-density, high grade metal-sheathed elements.

Temperature High-Limit Automatic reset type, snap-action bimetal, open on temperature rise. Rated 100,000 cycles at 10 amps,

handles 0.128 amps.

Control Circuit 120 Volts, 0.128 ams, 15 VA.

Control Transformer Multi-tap primary, 120V secondary, 50 VA.

Contactor 60 or 100 amp. rated 1,000,000 cycles at maximum capacity, operating at not more than 84% full load. 120V,

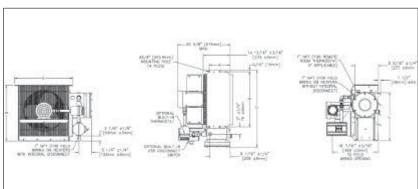
15 VA fuse protected coil.

Overpressure Protection Fusible alloy plug 170 psi (1.17 MPa).

Temperature Code Rating T3B 165°C (329°F) Class I & II.

Temperature Limitations Operational; -49°F to 176°F (-45°C to 80°C), short term to 248°F (120°C).

Dimensions In Inches:



	Dim	ension	10 kW	20 kW	35 kW	Tolerance ±
	Α	in. mm	8 ⁷ / ₁₆ 215	8 ⁷ / ₁₆ 215	8 ⁷ / ₁₆ 215	¹/ ₈ 3
6	В	in. mm	18³/₁6 462	22 ⁵ / ₁₆ 566	26 ¹ / ₄ 667	¹/ ₈ 3
	С	in. mm	27 686	31 787	35 889	³ / ₁₆ 4
	D	in. mm	18½ 470	22½ 572	26½ 674	¹/ ₈ 3
	Е	in. mm	19 ⁷ / ₁₅ 494	23 ⁷ / ₁₆ 596	27 ⁷ / ₁₆ 697	³/ ₈ 10
	F	in.	17½ 444	19½ 495	21 ¹³ / ₁₆ 554	⁵ / ₁₆

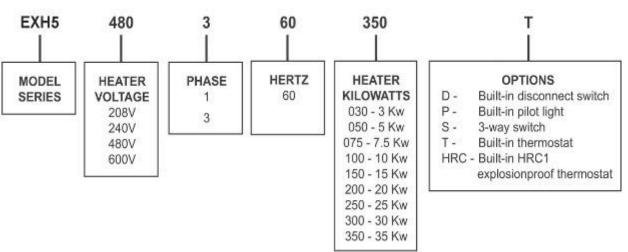
2.5 - 12.5 - 20.9 - Dim.

Dimensional tolerances $\pm 1/8$ " (3.2mm) unless otherwise specified.

NEMA 7CD, 9EFG

Order	ing Informa	ition:						
	Nominal Wattage (kW)	Voltage	Phase	Cat. #	Maximum Total Current (Amperes)	Tempera °F	ture Rise °C	Heat Output BTU/Hr.
	3.0	208	1	EXH5-208160-030	14.4	11.2	6.2	10,250
	3.0	208	3	EXH5-208360-030	8.3	11.2	6.2	10,250
	3.0	240	1	EXH5-240160-030	12.5	11.2	6.2	10,250
	3.0	240	3	EXH5-240360-030	7.2	11.2	6.2	10,250
	3.0	480	1	EXH5-480160-030	6.3	11.2	6.2	10,250
	3.0	480	3	EXH5-480360-030	3.6	11.2	6.2	10,250
	3.0	600	3	EXH5-600360-030	2.9	11.2	6.2	10,250
	5.0	208	1	EXH5-208160-050	24.0	18.6	10.3	17,100
	5.0	208	3	EXH5-208360-050	13.9	18.6	10.3	17,100
	5.0	240	1	EXH5-240160-050	20.8	18.6	10.3	17,100
	5.0	240	3	EXH5-240360-050	12.0	18.6	10.3	17,100
	5.0	480	1	EXH5-480160-050	10.4	18.6	10.3	17,100
	5.0	480	3	EXH5-480360-050	6.0	18.6	10.3	17,100
EXH512	5.0	600	3	EXH5-600360-050	4.8	18.6	10.3	17,100
	7.5	208	1	EXH5-208160-075	36.1	27.9	15.5	26,600
	7.5	208	3	EXH5-208360-075	20.8	27.9	15.5	26,600
	7.5	240	1	EXH5-240160-075	31.3	27.9	15.5	26,600
	7.5	240	3	EXH5-240360-075	18.0	27.9	15.5	26,600
	7.5	480	1	EXH5-480160-075	15.6	27.9	15.5	26,600
	7.5	480	3	EXH5-480360-075	9.0	27.9	15.5	26,600
	7.5	600	3	EXH5-600360-075	7.2	27.9	15.5	26,600
	10.0	208	3	EXH5-208360-100	27.8	37.2	20.7	34,150
	10.0	240	1	EXH5-240160-100*	41.7	37.2	20.7	34,150
	10.0	240	3	EXH5-240360-100	24.1	37.2	20.7	34,150
	10.0	480	1	EXH5-480160-100	20.8	37.2	20.7	34,150
	10.0	480	3	EXH5-480360-100	12.0	37.2	20.7	34,150
	10.0	600	3	EXH5-600360-100	9.6	37.2	20.7	34,150
	15.0	240	3	EXH5-240360-150	36.1	27.1	15.1	51,200
	15.0	480	1	EXH5-480160-150	31.3	27.1	15.1	51,200
	15.0	480	3	EXH5-480360-150	18.0	27.1	15.1	51,200
EXH516	15.0	600	3	EXH5-600360-150	14.4	27.1	15.1	51,200
EXH310	20.0	480	1	EXH5-480160-200	41.7	36.1	20.1	68,300
	20.0	480	3	EXH5-480360-200	24.1	36.1	20.1	68,300
	20.0	600	3	EXH5-400360-200	19.2	36.1	20.1	68,300
	25.0	480	3	EXH5-480360-250	30.1	45.2	25.1	85,400
	25.0	600	3	EXH5-600360-250	24.1	45.2	25.1	85,400
	30.0	480	3	EXH5-480360-300	36.1	26.4	14.6	102,360
EXH520	30.0	600	3	EXH5-600360-300	28.9	26.4	14.6	102,360
	35.0	480	3	EXH5-480360-350	42.1	30.7	17.1	119,450
	35.0	600	3	EXH5-600360-350	33.7	30.7	17.1	119,450

Catalog Number Example:



^{*} Not available with built-in disconnect switch (option D).

XC Series Explosionproof Electric Heaters

NEC: Cl. I, Div. 1 & 2, Groups B*, C & D IEC: Cl. I, Zones 1 & 2, Group IIB & H₂* NEMA: 7B*CD

Applications:

Single phase XC explosionproof electric heaters are used:

- In areas where flammable liquids, gases or vapors are present
- · For rugged locations including:
 - Petroleum refineries, gasoline storage and dispensing areas
 - Wastewater treatment plants
 - Areas that use flammable liquids for cleaning parts in dip tanks
 - Petrochemical plants
 - Paint spraying areas
 - Aircraft hangars and fuel servicing
 - Hydrogen fuel cell and battery storage facilities
 - Natural gas plants
- In areas where flammable vapors or gases may be present due to accidental or abnormal conditions
- For standby heat to prevent process heat loss or for personnel comfort during maintenance/repair operations

Standard Features:

- Sloped-top cabinet prevents objects that restrict airflow from being set on top
- Corrosion-resistant design with no exposed copper or brass – suitable for H2S environments
- High-velocity airflow heats up area faster with better heat distribution
- 14-gauge steel cabinet for rugged reliability
- Short cabinet lengths take up less wall and floor space
- Optional built-in thermostat (Class I, Division 1, Groups C & D, and Zone 1, Group IIB models) reduces field installation costs
- *Incoloy*® 840 heating elements have longer life expectancy
- Radial-embossed aluminum plate fins warp less for better heat transfer
- Galvanized steel mounting brackets for quick installation



Certifications and Compliances:

NEC:

Class I, Divisions 1 & 2, Groups B*, C, D

IEC

Class I, Zones 1 & 2, Group IIB + H2*

- NEMA: 7B*CD
- UL Standard: 823
- CSA Standard: C22.2 Nos. 25, 30, 46
- Temperature Code: T2A 280°C (536°F)

Standard Materials and Finishes:

- Heating elements resistance wire embedded in a magnesium oxide refractory and sheathed in an Incoloy® 840 tube
- Finned tube assembly aluminum tube with radial-embossed aluminum plate fins
- Cabinet 14-gauge (0.075"/1.90 mm) steel, green-gray epoxy powder-coated front and side panels, galvanized steel back panel

Accessories and Options:

- Built-in thermostat for 120-, 208-, 240-, 277- or 480-volt applications (see ordering information on next page)
- Remotely mounted HRC85 explosionproof thermostat using Honeywell® control for 45°F–85°F heating range (order separately)

Specifications:

opecifications.					
Nominal kW	1.2	1.8	3.6	4.8	7.6
Shipping Weight					
(lbs.)	61.3	61.3	61.3	88.4	104.3
(kg)	27.8	27.8	27.8	40.1	47.3
Enclosures			loor use only. as exposed to		
Mounting Brackets	Two 14-gaug	ge galvanized	steel bracket	S.	
Heating Elements	Two Incoloy® 840-sheathed elements.				
Optional Built-In Thermostat	Explosionproof room thermostat with 10 settings.				
Cabinet Material	and side pan	els are baked	n) steel. Rear d green-gray e including iron	epoxy powder	
Temperature Code Rating	T2A – 280°C	(536°F)			
Temperature Limitations Operational Storage		C (–49°F to 1 C (–49°F to 1			

^{*}Hydrogen applications only apply to heaters without built-in thermostats.

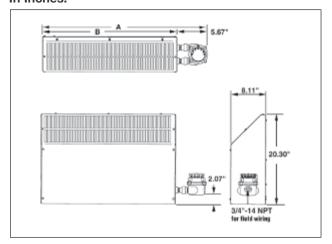
Ordering Information:

Without built-in room thermostat -Class I, Div. 1 & 2, Groups B, C & D; Zones 1 & 2, Group IIB + H₂

	Unit Wattage	Unit Output	Unit	Unit Current	Maximum Circuit Fuse
Cat. #	(kW)	(BTU/Hr)	(Volts)	(Amps)	(Amps)*
XC A1 N0		4097	120	10.0	15
XC A2 N0		4097	208	5.8	15
XC A3 N0		4097	240	5.0	15
XC A4 NO		4097	480	2.5	15
XC A5 N0 XC A6 N0		4097 4097	600 277	2.0 4.3	15 15
XC B1 N0		6146	120	15.0	20
XC B2 N0		6146	208	8.7	15
XC B3 N0		6146	240	7.5	15
XC B4 N0		6146	480	3.8	15
XC B5 N0 XC B6 N0		6146 6146	600 277	3.0 6.5	15 15
XC C2 N0		12292	208	17.3	20
XC C3 N0		12292	240	15.0	20
XC C4 NO		12292	480	7.5	15
XC C5 N0 XC C6 N0		12292 12292	600 277	6.0 13.0	15 15
XC D2 N0		16389	208	23.1	25
XC D3 N0		16389	240	20.0	25
XC D4 N0		16389	480	10.0	15
XC D5 N0 XC D6 N0		16389 16389	600 277	8.0 17.3	15 20
	7.6	25950	208	36.5	40
XC E3 N0		25950	240	31.7	35
XC E4 NO		25950	480	15.8	20
XC E5 NO		25950	600	12.7	15
XC E6 N0		25950	277	27.4	30

^{*}Or equivalent breaker as per National Electrical Code and Canadian Electrical Code

Dimensions In Inches:



With built-in room thermostat -
Class I, Div. 1 & 2, Groups C & D;
Zones 1 & 2, Group IIB

Cat. #	Unit Wattage (kW)	Unit Output (BTU/Hr)		Unit Current (Amps)	Maximum Circuit Fuse (Amps)*
XC A1 B1	1.2	4097	120	10.0	15
XC A2 B2	1.2	4097	208	5.8	15
XC A3 B3	1.2	4097	240	5.0	15
XC A4 B4	1.2	4097	480	2.5	15
XC A6 B6	1.2	4097	277	4.3	15
XC B1 B1	1.8	6146	120	15.0	20
XC B2 B2	1.8	6146	208	8.7	15
XC B3 B3		6146	240	7.5	15
XC B4 B4		6146	480	3.8	15
XC B6 B6	1.8	6146	277	6.5	15
XC C2 B2	3.6	12292	208	17.3	20
XC C3 B3		12292	240	15.0	20
XC C4 B4		12292	480	7.5	15
XC C6 B6	3.6	12292	277	13.0	15
XC D3 B3	4.8	16389	240	20.0	25
XC D4 B4	4.8	16389	480	10.0	15
XC D6 B6	4.8	16389	277	17.3	20
XC E4 B4	7.6	25950	480	15.8	20

^{1.} Remote-mounted explosionproof room thermostats are not suitable for Group B & IIC applications. Remote contactors are also required on all 600-volt heaters and heaters with a current draw greater than 22 amps (supplied and installed by others).

Current draw greater trial 22 anips (supplied and installed by others).

2. Remote mounted explosionproof room thermostats suitable for Group B, IIB + H₂ applications are a special-order item.

3. Operation at lower than rated voltages will result in reduced kW output and amp draw. Actual Output (kW) = [(Supply Voltage)² + (Rated Voltage)²] x Rated Unit Wattage (kW)

Heater kW Rating **A Dimensions B** Dimensions 31.34" (796mm) 49.45" (1256mm) 59.49" (1511mm) 1.2 - 3.6 37.0" (940mm) 55.125" (1400mm) 65.125" (1654mm) 4.8 7.6

^{*}Hydrogen applications only apply to heaters without built-in thermostats.

3A

HRC Thermostats with Honeywell Control

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 7CD, 9EFG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

HRC thermostats with Honeywell control are used:

- For heavy duty line voltage thermostats to control fan coils, fans, motor starters, valves, contactors, and circulator motors in heating and/or cooling systems. If larger motors than listed are to be controlled, relays or magnetic motor starters must be interconnected between motors and thermostats
- In specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, certain hazardous metal finishing areas, coal processing locations, granaries and grain processing plants



- A heavy duty snap switch is mounted in the enclosure; the temperature sensitive element is mounted on the external surface of the cover and actuates the switch through a shaft and bearing mechanism
- An external knob permits temperature setting within calibrated range; the knob is removable to prevent unauthorized adjustment; room ambient is indicated on thermometer at front

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• NEMA/EEMAC: 7CD, 9EFG, 12

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

Feraloy® iron alloy

Standard Finishes:

Electrogalvanzed and aluminum acrylic paint

Size Ranges:

• Hubs - 3/4" through-feed



Electrical Rating Ranges:

- 120 / 240 VAC
- 50 / 60 hertz
- Full load current in amperes:

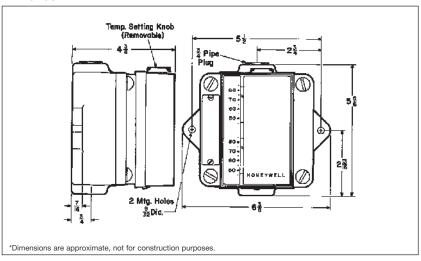
	120 VAC	240 VAC	
Heating	10.2	6.5	
Cooling	7.4	4.0	

Ordering Information:

Temperature	Non-Adjustable Operating	g Differential
Range	(approx.)	Cat. #†
45 – 85°F	1° F	HRC85

†Furnished with thermostat and thermometer.

Dimensions* In Inches:



CI. III

Applications:

HRC Bimetal Thermostats are used:

- To control heating only, cooling only or ventilation systems in demanding industrial environments
- In specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, coal processing locations, waste storage facilities, pulp and paper mills, granaries and grain processing plants or any other location where specific explosive gases or dusts are present

Features:

- Bimetal sensing element that is fast acting, reliable and unaffected by altitude
- Compact, lightweight design makes it easy to install
- No exposed copper or brass parts for excellent resistance to corrosion
- Feed-through design for easy installation
- Durable all aluminum exterior
- Available for heating only or heating or cooling/ventilation applications



• NEC/CEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

• Copper-free aluminum

Standard Finishes:

Natural

Size Ranges:

• Conduit opening - 3/4" hub

Electrical Ratings:

- 480 VAC max
- ½ HP @ 120 VAC
- 1 HP @ 250 VAC
- 22 amps Res.

Temperature Range:

- 36°F to 82°F (2°C to 28°C)
- Temperature differential: 2.5°F (1.5°C)

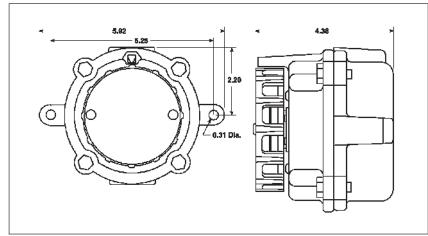


Ordering Information

Hub Size	Description	Cat. #
3/4	Single Pole, Single Throw (heating only)	HRC1
3/4	Single Pole, Double Throw (heating or cooling/ventilation applications)	HRC2

Dimensions

In Inches:



TCH Electric Clocks

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III

Factory-sealed

Applications:

Type TCH electric clocks are used:

• In oil refinery control rooms, hospital operating rooms, chemical plants, grain handling and processing plants and other similar locations where specific hazardous atmospheres may exist

Features:

- Sheet steel case may be used where environmental conditions are not severe; electric motor and connections are contained in corrosion-resistant enclosure; dials are 13" in diameter; reset knob protrudes from bottom of
- · Disassembly for installation and maintenance is easily performed; the motor housing is factory-sealed, with no external seals required

Certifications and Compliances:

• NEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

Standard Materials:

- Clock body and cover sheet steel
- Motor housing copper-free aluminum

Standard Finishes:

- Aluminum aluminum acrylic paint
- Sheet steel baked aluminum enamel

Size Ranges:

• Hubs - 1" through-feed

Electrical Rating Ranges:

- 110VAC, 60 hertz
- Self-starting synchronous motor 3 watts

Options:

The following special options are available: Description

Sheet metal band notched for conduit, can be supplied for enclosing gap between wall surface See and back of case listings



Explosionproof

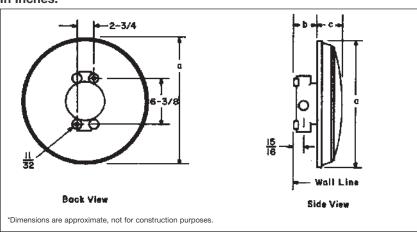
Dust-Ignitionproof

Sheet Steel Case

Ordering Information:

Enclosure with (Enclosure with Clock Motor Hub Size Style Cat. #							
110 VAC 60 hertz Self-Starting Synchronous (3 Watts)	1"	With Sheet Steel Case Surface Mount	TCH2220	TCH202				

Dimensions* In Inches:



Cat. #	а	b	С	
TCH2220	17	27/0	37/40	

Applications:

ETW series telephones are used:

- For communication in areas which may be hazardous due to the presence of flammable gases or vapors, and/or combustible dusts
- In chemical plants, oil refineries, bulk loading stations, paint and varnish manufacturing plants, grain processing and similar industries

Features:

- Modern styled, pushbutton wall-mount unit is very rugged in design, suitable for the harshest industrial applications
- Large, easy to read keyboard allows gloves-on operation
- Cast copper-free aluminum housing, with baked on powder coat finish, is highly resistant to corrosive atmospheres
- Units are tone or pulse compatible and offer superior audio clarity
- Handset cord features a pin-type connector for easy field replacement; handset circuit is intrinsically safe
- Up to ten units can be connected on one line



• NEC/CEC:

Class I, Divisions 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

- UL Standard: 1203, 698
- CSA Standard: C22.2 No. 30
- FCC Approved

Standard Materials:

- Enclosure copper-free aluminum
- Handset high impact plastic

Standard Finishes:

Enclosure – baked powder paint (safety blue)

Accessories:

- A standard volume explosionproof ringer (ETR1) is available, see page 714 for listing.
- For locations with a high level of ambient noise, a louder ringer can be installed. An ESR bell or ETH horn may be used by installing an ETC relay between the telephone line switch and the bell or horn. The relay coil is energized by the ringing current and the relay contacts control a separate power source to the signal.



ETW401

Ordering Information:

Description

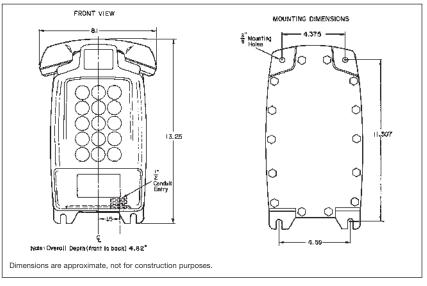
Phone w/ handset Replacement handset (10' cord) ETW Replacement handset (20' cord) ETW Phone w/ headset Phone push-to-talk handset Replacement headset Explosionproof ringer

Cat.

ETW401 ETW:301SC ETW:301SC 20 ETW401 HS ETW401 PB ETW:P7200 ETR1

Dimensions

In Inches:



Telephones for Hazardous Areas

Ex-ResistTel, FernTel IP - Hazardous Area Communication Series

Applications:

Industrial telephones developed specifically for the harsh and hazardous environments are found in:

• Oil refineries, petrochemical plants, offshore platforms, marine applications and industrial manufacturing.

These telephones can handle large temperature differences found outdoors, high humidity and exposure to sea water, as well as heavy mechanical wear and tear.

Features:

Ex-ResistTel - Hazardous Analog Telephone

- Fully encapsulated electronics in robust glass fiber-reinforced polymer housing with 1/2" NPT conduit entries and Type 4X (IP66)
- Programmable with alphanumeric display and a 21-piece stainless steel lighted keypad
- · Hermetically sealed non-contact hook sensing switch improves system reliability
- · Captive cover screws prevent loss during installation
- · Ventilation/pressure balancing plug eliminates moisture collection inside the enclosure
- 10 ringing melodies, maximum 50 directory entries; multiple languages available
- Operating Environment from -20°C to +40°C
- Ringer output: 90dB; noise suppression: 3dB

FernTel IP - Hazardous Voice over Internet Protocol Telephone

- Corrosion resistant polycarbonate housing with ½" NPT conduit entries and Type 3 (IP65) protection
- Programmable with alphanumeric illuminated display and a 21-piece lighted keypad
- Hermetically sealed non-contact hook sensing switch improves system reliability
- Captive cover screws prevent loss during installation
- Power supply: PoE (power over ethernet) with no separate power supply required
- Operating Connection: 10/100 BASE-T Ethernet LAN
- Protocoll: H323 and SIP
- Operating Environment from -20°C to +55°C
- Ringer Output: 95dB



Cl. I, Div. 2, Groups A, B, C, D

NEMA 3, 4X IP65, 66



Ex-ResistTel

FernTel IP

Certifications and Compliances:

Ex-ResistTel

- Class I, Division 2, Groups A, B, C, D T6
- Type 4X, IP66 to EN 60529
- UL & cUL
- FCC: Parts 15 and 68 hearing aid compatible
- TIA-968-A & CS-03 Part 1

FernTel IP

- Class I. Division 2. Groups A. B. C. D T5
- Type 3, IP65 to EN 60529
- UL & cUL

Standard Materials:

- Enclosure Glass fiber-reinforced polymer (Ex-ResistTel); Polycarbonate (FernTel IP)
- Keypad, Faceplate, Trip, Armored Cord 316 SST

Dimensions & Weights:

- Ex-ResistTel 10.5" x 9" x 5.3"; 12 lbs
- FernTel IP 12" x 8" x 5"; 5.5 lbs

Ordering Information:



Model	Туре	Description	Color	Cat. #
Ex-ResistTel	Analog	Keypad & Display	Black	11286101110
FernTel IP	VolP	Spiral Cord	Yellow	11241141
FernTel IP	VoIP	Armored Cord	Yellow	11243141



3A Telephone Accessories

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III Explosionproof Dust-Ignitionproof Raintight Wet Locations

Features:

- ETC232 power relays are used with ESR bells and ETH, W2H or WH horns; the relay coil is energized by the telephone ringing circuit, and the relay contacts control the separate 115VAC, 60 hertz power source
- ETR1 external ringer for ETW401 telephone; for low ambient noise areas, ring tone level is similar to a general use telephone; includes a ring detect relay which is powered by the telephone line voltage, (maximum 90VAC)

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups B^* , C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies copper-free aluminum
- Covers copper-free aluminum

Standard Finishes:

• Aluminum – baked epoxy powder paint

Power Relay



Description	Rating	Hub Size	Cat. #
Relay for Horn Signal	10A 115VAC 60 hertz	3/4"	ETC232

Ringer



Description	Size	Cat. #
Normal volume external		
ringer for ETW40	3/4"	ETR1
telephone		

Page No.

Description

4A XDT Hazardous Location Dry-Type Transformers

Resin Encapsulated Dry-Type Series

Eaton's Crouse-Hinds Hazardous Location Dry-Type Transformers provide safe and efficient electric power distribution in the most extreme harsh and hazardous locations.

Applications:

Eaton's Crouse-Hinds Hazardous Location Dry-Type Transformers are designed to operate where volatile flammable liquids or gases are handled, processed, or used, and where ignitable concentrations of gases or vapors are normally prevented by positive mechanical ventilation, such as:

- Refineries
- · Chemical and petrochemical plants
- Mining
- · Corrosive process facilities
- Indoor and outdoor industrial applications

Features:

- Resin-encapsulated core-coil assembly for reliable performance in extreme environments
- NEMA 3R and 4X enclosures provide essential ingress protection
- 180°C insulation system with 115°C winding temperature rise creates optimal loading capabilities
- Ratings: single phase 0.5 kVA through 37.5 kVA; three phase -3 kVA through 150 kVA
- Custom configurations available to meet customer specifications

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D
- NEMA 3R, 4X
- UL Standard 1604
- cUL to C22.2 No. 66 and C22.2 No. 213-M1987

Standard Materials:

- Enclosure painted steel (NEMA 3R) or 316 stainless steel (NEMA 4X)
- Windings aluminum or copper



Electrical Ratings:

- Single phase: 0.5 to 37.5 kVA
- Three phase: 3 to 150 kVA
- 180°C insulation
- 115°C winding temperature rise
- Frequency: 60 Hz
- Impedance: 2 to 5%

Options:

Description	Suffix
NEMA 4X	. X
Aluminum windings (three phase only)	. AL

XDT Hazardous Location Dry-Type Transformers

Resin Encapsulated Dry-Type Series

Ordering Information - Single Phase:					
Primary Vol	tage		480V		
Secondary '	Voltage	12	0 / 240V		
NEMA		3R	4X		
	0.5	XDT1A0A	XDT1A0AX		
	0.75	XDT1A0B	XDT1A0BX		
	1	XDT1A1	XDT1A1X		
	1.5	XDT1A1A	XDT1A1AX		
	2	XDT1A2	XDT1A2X		
kVA	3	XDT1A3	XDT1A3X		
	5	XDT1A5	XDT1A5X		
	7.5	XDT1A7	XDT1A7X		
	10	XDT1A10	XDT1A10X		
	15	XDT1A15	XDT1A15X		
	25	XDT1A25	XDT1A25X		
	37.5	XDT1A37	XDT1A37X		

Ordering Information - Three Phase:

Primary Voltage			48	30V			600 V		
Seco	ndary Voltage	208	Y / 120V		240V		208Y / 120V		/ / 277V
NEMA		3R	4X	3R 4X		3R 4X		3R 4X	
	3	XDT3B3	XDT3B3X	XDT3C3	XDT3C3X	XDT3D3	XDT3D3X	XDT3E3	XDT3E3X
	6	XDT3B6	XDT3B6X	XDT3C6	XDT3C6X	XDT3D6	XDT3D6X	XDT3E6	XDT3E6X
	9	XDT3B9	XDT3B9X	XDT3C9	XDT3C9X	XDT3D9	XDT3D9X	XDT3E9	XDT3E9X
	15	XDT3B15	XDT3B15X	XDT3C15	XDT3C15X	XDT3D15	XDT3D15X	XDT3E15	XDT3E15X
kVA	30	XDT3B30	XDT3B30X	XDT3C30	XDT3C30X	XDT3D30	XDT3D30X	XDT3E30	XDT3E30X
	45	XDT3B45	XDT3B45X	XDT3C45	XDT3C45X	XDT3D45	XDT3D45X	XDT3E45	XDT3E45X
	75	XDT3B75	XDT3B75X	XDT3C75	XDT3C75X	XDT3D75	XDT3D75X	XDT3E75	XDT3E75X
	112.5	XDT3B112	XDT3B112X	XDT3C112	XDT3C112X	XDT3D112	XDT3D112X	XDT3E112	XDT3E112
	150	XDT3B150	XDT3B150X	XDT3C150	XDT3C150X	XDT3D150	XDT3D150X	XDT3E150	XDT3E150X

4A XDT Hazardous Location Dry-Type Transformers

Resin Encapsulated Dry-Type Series

Technical Details - Single Phase:

NEMA 3R Painted Steel Enclosure

Singl	Single Phase - 480V Primary to 120 / 240V Secondary							
kVA	Cat. #	Winding	Height (In.)	Width (In.)	Depth (In.)	Weight (Lbs.)	Frame	Taps
0.5	XDT1A0A	CU	6.5	4.9	4.7	21	57H	None
0.75	XDT1A0B	CU	8.4	6.0	5.5	33	58H	None
1	XDT1A1	CU	8.4	6.0	5.5	35	59H	None
1.5	XDT1A1A	CU	10.5	6.4	6.1	52	67H	None
2	XDT1A2	CU	10.5	6.4	6.1	51	68H	None
3	XDT1A3	AL	14.1	7.8	8.0	79	176H	None
5	XDT1A5	AL	16.0	10.4	9.9	140	177H	None
7.5	XDT1A7	AL	16.0	10.4	9.9	146	178H	None
10	XDT1A10	AL	19.0	13.4	10.5	240	179H	None
15	XDT1A15	AL	19.0	13.4	10.5	260	180H	None
25	XDT1A25	AL	28.5	22.5	14.7	409	300H	None

Technical Details - Three Phase:

NEMA 3R Painted Steel Enclosure

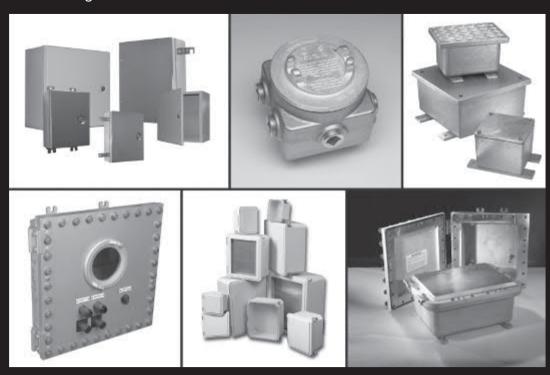
Three Phase - 480V ∆ Primary to 208Y / 120V Secondary								
kVA	Cat. #	Winding	Height (In.)	Width (In.)	Depth (In.)	Weight (Lbs.)	Frame	Taps
3	XDT3B3	CU	13.4	16.0	3.4	152	201H	2 at -5%
6	XDT3B6	CU	15.9	16.5	9.9	215	200H	2 at -5%
9	XDT3B9	CU	15.9	16.5	9.9	230	103H	2 at -5%
15	XDT3B15	CU	17.4	19.7	10.7	316	95H	2 at +2.5%; 2 at -2.5%
30	XDT3B30	CU	26.6	25.3	12.8	632	243H	2 at +2.5%; 4 at -2.5%
45	XDT3B45	CU	26.5	28.5	14.6	898	244H	2 at +2.5%; 4 at -2.5%
75	XDT3B75	CU	30.8	30.1	15.6	1470	245H	2 at +2.5%; 4 at -2.5%
112.5	XDT3B112	CU	Contact Custs	amar Carriaa				
150	XDT3B150	CU	— Contact Custo	Contact Customer Service				

Additional Information and Configurations:

- Contact Customer Service for technical specifications (dimensions, weights, taps, etc.) on all other sizes.
- Special configurations are available on request. Please contact Customer Service for additional details.

Enclosures Section E

Enclosures and junction boxes built and configured to meet the requirements of the most demanding hazardous areas and industrial environmental applications across the globe.



E Enclosures

Table of Contents

Section E of the Eaton's Crouse-Hinds Product Catalog lists metallic and non-metallic enclosures for hazardous and industrial applications. Information on application, features, standard materials, standard finishes, size ranges, compliances, options, and accessories are presented for ease of product selection.

Information relating to product families in Section E is grouped as follows:

Section 1E

Metallic Enclosures

For explosionproof or flameproof hazardous applications

GUE, GUB EIH, EIHT GUA EGJ GUP GHG64 EJB EMH

Section 2E

Metallic Enclosures

For increased safety hazardous applications or non-hazardous applications

application
Ex-CELL
NXT
STB
HVB
KBX

Section 3E

Nonmetallic Enclosures

For Hazardous Applications GHG74 Kestrel TBF/TBP Section 4E

Metallic Enclosures

For Non-hazardous Applications

QBX PTB/PTC W-Series RS, RSM, RSS

Section 5E

Nonmetallic Enclosures

For Non-hazardous Applications Fiberglass NJB, NCE, NCS, NCD NJBW

Section 6E

Enclosure Accessories

Hubs Grounding Plates Grounding Bushings Drains and Breathers CID 101 Corrosion Inhibitor LNR Conduit Liner Metallic Enclosures 1E

Explosionproof or Flameproof Hazardous Applications

Description	Page No.
Explosionproof Enclosures	
GUE / GUB Series	see page 722
EJB Series	see page 730
GUA Series	see page 752
GUP Series	see page 753
EGJ Series	see page 754
Flameproof Enclosures	
GUBA Series	see page 759
EJB Series	see page 750
GHG64 Series	see page 751
Instrument Housings	
EIH / EIHT Series	see pages 755-756
GUB Series	see pages 757-758
GUBA Series	see page 759
EMH Series	see page 760

1E

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 4*, 7BCD, 9EFG Ex d IIC T6, IP66†

Ex d IIC, IP66, ATEX certified

Explosionproof Dust-Ignitionproof Raintight Wet Locations Watertight

Applications:

GUE, GUB series junction boxes are used in threaded rigid conduit systems in hazardous areas:

- To function as a splice box, pull box or equipment and device enclosure
- · To house wiring
- · Indoors and outdoors

Features:

- Threaded construction throughout permits use in hazardous areas
- · Bodies have thick walls so they can be factory or field drilled and tapped to meet NEC/CEC requirements for Class I hazardous areas
- · Covers are provided with a neoprene "O" ring gasket to meet NEMA/EEMAC 4 requirements for a watertight seal§
- Internal grounding lug provides a means to ground enclosed equipment
- · Boxes are machined for field installed mounting plates
- · GUB boxes are ATEX certified when ordered with Suffix SA ATEX (not available for GU and GUE)

Certifications and **Compliances:**

• NEC/CEC:

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- ATEX: Ex d IIC, IP66† ATEX Certificate: PTB 01 ATEX 1019 U
- Ex d IIC. IP66. ATEX certified

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers copper-free aluminum

Standard Finishes:

- Feraloy iron alloy GU, GUE, GUB01, GUB02 - electrogalvanized and aluminum acrylic paint. All other boxes - zinc chromate primer and aluminum acrylic paint
- Copper-free aluminum natural

Information on request

Options:

Description	Suffix
 Copper-free aluminum bodies and covers (GUB01, GUB02, GUB03, GUB06 only) 	SA
ATEX certified (GUB01 SA, GUB02 SA, GUB03 SA, GUB06 SA only)	SA ATEX
Factory installed mounting plate for relays, terminal blocks, electrical devices, etc	MP
 Factory installed terminal blocks 	S.

Junction Boxes Without Hubs‡



GU 415/16" x 415/16" x 41/8" 35/6" cover opening

55/16" x 55/16" x 53/8" 35/6" cover opening

GUR01 6½" x 7" x 5¾" 5%" cover opening

GUB02 8" x 10" x 5⁷/₈" 7" cover opening

GUB06 81/2" x 10" x 67/8" 7" cover opening



GUB03

11" × 12" × 813/16" 95/8" cover opening

GUB01110* 14" × 18" × 13½" 12¼" cover opening

GUB15151

19" × 21" × 165/8" 163/4" cover opening



GUB04

11" x 12" x 811/16 95/8" cover opening

GUB08

81/2" × 10" × 613/16 7" cover opening

Ordering Information:

Junction boxes listed can be furnished with drilled and tapped conduit openings, subject to the limitations of maximum opening, number and spacing shown in Tables 1, 2 and 4.

To Order:

Select the box required from photos at left and dimensional drawings on next page.

Select standard conduit arrangement from Table 1.

Determine maximum size conduit opening required from Table 2 (consider conduit opening spacing from Table 4).

Select appropriate symbol for required drilled and tapped holes from Table 3.

Step 1 - box required GUB06 Step 2 - arrangement 108

Step 3 - openings - 11/2" at "a" and "c"; 1" at "b" and "d".

Step 4 - symbols are substituted and written in clockwise order starting with location "a". For this example:

FCFC Complete Cat. No. is made up of three parts: Part 1 - box number; Part 2 arrangement number; Part 3 - symbols for conduit openings. For this example: GUB06-108-FCFC. When no opening is required at a particular location, use symbol "0" (zero).

If none of the standard arrangements meet requirements, send a sketch showing junction box number with size and location of each opening desired.

For conduit liner ordering information, see page 860.

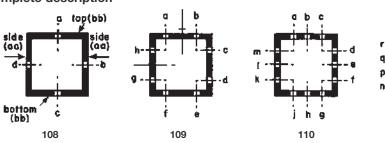
* NEMA 4 not available on GUB01110 and GUB15151. † Order suffix SA ATEX. GUB01110 and GUB15151 are rated IP54.

Dimensions provided are external

§GUB01110 listed for Class I, Div. 1, Groups C & D only in Canada (CSA).

Ordering Information

Table 1 Arrangements of Drilled and Tapped Conduit Openings - For other arrangements, send sketch and complete description



Conduit opening arrangements shown in the illustration should meet the majority of requirements. These GUB junction boxes will be supplied with drilled and tapped openings up to the maximum size and number shown in Table 2.

Table 2 Maximum Size & No. of Drilled & Tapped Holes

Maximum Size		& Botton		ed noies	Eac	Each Side (aa)†			Back‡			
Cat. #	1	2	3	4	1	2	3	4	1	2	3	4
Group D* GU GUE GUB01 GUB02 GUB06 GUB08 GUB08 GUB03 GUB04 GUB01110 GUB15151	1 2 2 2 2 2 2 2 2 2 2 5	1 1 1½ 2 2 2 2 2 2 2	3/4 1 1 1 1,11/2 1,1/2 2 3,1/2	3/4 3/4 3/4 1 1 11/2 21/2	1 2 2 2 2 2 2 2 2 2 5	1 1 1½ 2 2 2 2 2 2 2 2	1 1½ 1½ 1½ 1½ 2 2 2	1/2 1 1 1 1 11/4 11/4 2 3	3 2 1 3/4 2 2 4 4 6 6	1 1 3 ⁹ / ₄ 3 ⁹ / ₄ 2 2 2 4 4 6 6	3/4 3/4 3/4 3/4 2 2 3 ¹ / ₂ 4 6	9/4 3/4 3/4 3/4 2 2 2 3 3 3 ¹ / ₂
Group C▲ GU GUE GUB01 GUB02 GUB06 GUB08 GUB08 GUB03 GUB04 GUB04 GUB0515151	1 2 2 2 2 2 2 2 2 2 2 5	1 1 1½ 1½ 1½ 1½ 2 2 2 4	1/2 3/4 3/4 3/4 11/4 11/4 2	³ / ₄ ³ / ₄ 1 ¹ / ₄ 2	1 2 2 2 2 2 2 2 2 2 5	1 1 1½ 2 2 2 2 2 2 2 2	1/2 11/4 11/4 11/4 11/2 11/2 2 31/2	1½ ½ ½ ½ 1 1 2 2½	3 2 3/4 3/4 2 2 4 4 6 6	1 1 3/4 9/4 2 2 31/2 31/2 6	3/4 3/4 3/4 3/4 2 2 2 ¹ / ₂ 2 ¹ / ₂ 4	3/4 3/4 3/4 3/4 11/2 11/2 21/2 21/2 31/2 5
Group B GU GUE GUB01 GUB02 GUB06 GUB08 GUB08 GUB08 GUB04 GUB04 GUB011110 GUB15151	1 2 2 2 2 2 2 2 2 2	1 1 1½ 1½ 1½ 1½ 2 2 2	1/2 3/4 3/4 3/4 11/4 11/4 2 31/2	³ / ₄ ³ / ₄ 1 ¹ / ₄ 2 ¹ / ₂	1 2 2 2 2 2 2 2 2 2 4	1 1 1½ 2 2 2 2 2 2 2	½ 1¼ 1¼ 1¼ 1½ 1½ 2 3½	1/2 1/2 1/2 1 1 1 2 2 ¹ / ₂	3 2 3/4 3/4 2 2 4 4 4 4	1 1 3/4 3/4 2 2 2 31/2 4 4	3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄ 2 2 2 ¹ / ₂ 4	3/4 3/4 3/4 11/2 11/2 21/2 21/2 4

Table 3 Drilled & Tanned Holes

Drilled &	парреа по	nes
Size	Symbol	
1/2	Α	
3/4	В	
1	С	
11/4	E	
11/2	F	
2	G	
21/2	Н	
3	J	
31/2	K	
4	L	
none	0	

^{*}Group D chart is based on use of staggered unions. If adjacent unions are desired, additional spacing may be necessary. †Sidewall and top and bottom sizes are based on all openings being in line.

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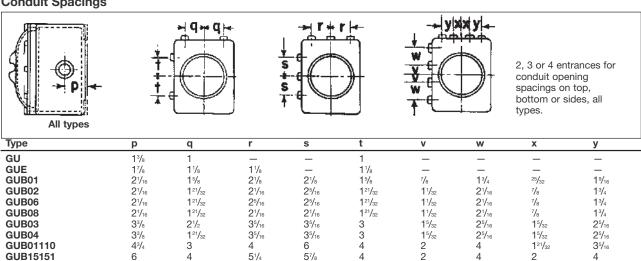
[#]Backwall sizes are based on: two per side – diagonal corners; four per side – one in each corner; three per side – triangular pattern with two on adjacent corners on long wall and third in center of opposite long wall.

Conduit seals are required within 1½" of all conduit entrances for Class I, Group C hazardous locations.

Conduit seals are required within 1½" of all conduit entrances for Class I, Group B hazardous locations. For conduit liner ordering information, see page 860.

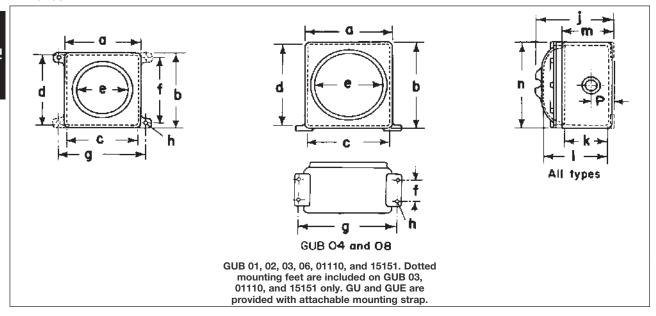
Dimensions

Table 4Conduit Spacings



Dimensions

In Inches:



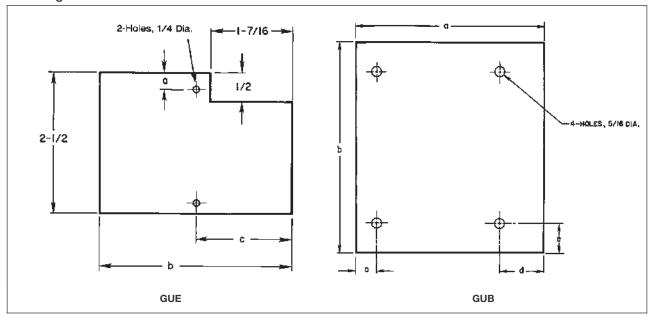
Туре	а	b	c‡	d‡	е	f	g	h	j	k‡	I‡	m	n
GU	415/16	415/16	313/16	313/16	35/8	_	_	_	41/8	19/16	37/16	23/8	41/8
GUE	55/16	55/16	43/16	43/16	35/8	_	_	_	5³/ ₈	21/4	37/16	31/2	41/8
GUB01	61/2	7	61/2	57/8	5 ³ / ₈	$5^{3}/_{4}$	71/2	13/32	5 ³ / ₄	31/16	41/2	41/16	61/4
GUB02	8	10	71/8	91/8	7	83/4	9	13/32	57/8	3	45/8	41/16	73/4
GUB06	81/2	10	73/8	87/8	7	83/4	91/2	7/16	7 ³ / ₈	41/4	5 ¹³ / ₁₆	51/4	73/4
GUB08	81/2	10	7³/ ₈	87/8	7	21/2	95/8	7/16	7³/ ₈	$4^{1}/_{4}$	53/16	51/4	$7^{3}/_{4}$
GUB03	11	12	93/4	103/4	95/8	103/4	121/8	7/16	813/16	5	73/8	65/8	11
GUB04	11	12	93/4	103/4	95/8	31/2	121/8	7/16	811/16	5	7³/ ₈	$6^{1}/_{2}$	11
GUB01110	141/16	181/16	13	17	121/4	16	16	1	131/2	613/16	10³/₄	93/4	14
GUB15151	207/8	187/8	19⅓	17¹/ ₈	16³/₄	18	21	1	16 ⁵ / ₈	9	13³/₁6	11³/ ₈	18

‡ Inside dimensions.

For conduit liner ordering information, see page 860

Mounting Plate Dimensions

Table 5 Mounting Plate Dimensions



Box Cat. #	Mounting Plate Kit Cat. #	а	b	С	d	е
GU	GU MPK1	9/32	33/8	1 43/64	_	
GUE	GUE MP K1	9/32	33/8	1 43/64	_	_
GUB01	GUB MP01	43/8	5	3/8	1	1
GUB02	GUB MP02	59/16	61/4	5/8	15/16	7/8
GUB03	GUB MP03	8	9	15/16	15/16	11/2
GUB04	GUB MP03	8	9	15/16	15/16	11/2
GUB06	GUB MP02	59/16	61/4	5/8	15/16	7/8
GUB08	GUB MP02	59/16	61/4	5/8	1 5/ ₁₆	7/8
GUB01110	GUB MP01110	83/4	12	⁷ / ₁₆	1 7/ ₁₆	13/4
GUB15151	GUB MP15151	14	14	1 5/8	1 5/8	1 5/8

For conduit liner ordering information, see page 860

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Cl. I, Div. 1 and 2, Groups B‡, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 7B‡CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Applications:

GUB and EPC threaded covers are used with GUB boxes in control systems in hazardous areas:

- · Indoors and outdoors
- In three categories:

Flat – for normal use; furnished with standard GUB boxes

Glass window – to provide visibility of meter indications when used to enclose meters

Domed – for increasing volume of GUB to make it easier to splice and pull large conductors

Features:

- Domed more suitable for use when splices of heavy conductors are made and enclosed, since the conductors may be pulled in with the ends outside the box. After the splices are made, they do not have to be crowded back into the
- Glass window has maximum diameter glass to give best visibility. In selecting, the diameter of the meter face should match or be slightly smaller than window diameter

Certifications and Compliances:

NEC: UL Standard 1203
 GUB0101, -0102, -0103, -714, -7110, EPC2110, EPC2151
 Class I, Division 1 and 2, Groups B, C, D
 Class II, Division 1, Groups E, F, G
 Class II, Division 2, Groups F, G
 Class III

All other covers:

Class I, Division 1 and 2, Group D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

CEC: CSA Standard C22.2 No. 30
 Class I, Division 1 and 2, Group D
 Class II, Division 1, Groups E, F, G
 Class II, Division 2, Groups F, G
 Class III

GUB covers are suitable for use in hazardous areas only when used with appropriate GUB series enclosures.

Standard Materials:

Copper-free aluminum

Standard Finishes:

Natural

† Bodies are grouped by size of cover opening and take any of the covers shown in the group.

‡ Check certifications and compliances for specific hazardous area ratings for each catalog #.

For conduit liner ordering information, see page 860.



GUB flat cover



GUB glass cover



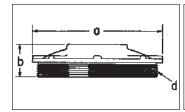
GUB dome cover

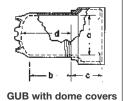
Ordering Information

	Flat	Glass Window	Dome Cover			
Body † Size	Cover Cat. #	Cover Cat. #	Cat. #	Nominal Depth		
GUB01	GUB0101	GUB0110	GUB714 GUB7110	4 10		
GUB02 GUB06 GUB08	GUB0102	GUB0108	GUB726	6		
GUB03 GUB04	GUB0103	GUB0109	GUB738 GUB7316	10 17		
GUB01110	EPC2110		EPC2115	5		
GUB15151	EPC2151					

Specify body and conduit openings in normal manner (see page 723) and state Cat. No. of cover required.

Dimensions In Inches:







Flat Covers

Cat. #	а	b	Thread Size d
GUB0101	6 ⁵ / ₁₆	1 ²³ / ₃₂	5 ⁵ / ₈ - 12
GUB0102	7 ¹³ / ₁₆	1 ¹⁵ / ₁₆	7 ¹ / ₈ - 12
GUB0103	11 ¹ / ₁₆	2 ³ / ₄	9 ³ / ₄ - 8
EPC2110	12 ⁷ / ₈	5 ⁵ / ₃₂	12.660 - 8
EPC2151	17	5 ⁹ / ₁₆	16.910 - 8

Glass Covers

Cat. #	а	b	Opening c	
GUB0110	65/16	1 13/16	35/8	55/8 - 12
GUB0108	713/16	21/16	43/4	71/8 - 12
GUB0109	111/16	1 15/16	613/16	93/4 - 8

Dome Covers

Cat. #	а	b	GUB02	GUB06	GUB08	all others	d
GUB714	51/16	23/4				43/16	4
GUB7110	51/16	91/8				43/16	103/8
GUB726	6³/ ₈	51/8	41/8	5 ¹ / ₈	5½		63/4
GUB738	87/8	8				65/8	101/2
GUB7316	87/8	151/4				65/8	17³/ ₈
EPC2115	119/16	39/16				81/2	69/16
EPC21116	119/16	149/16				81/2	17º/ ₁₆

GUB Equipment Housings

CI. I, Div. 1 & 2, Groups B†, C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 4, 7B†CD, 9EFG Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

Applications:

GUB equipment housings are used in threaded rigid conduit systems in hazardous areas:

- To house relays, contactors, terminal blocks or other equipment and devices
- Indoors or outdoors

Features:

- Supplied with dome cover and adjustable mounting position plate which extends into dome cover
- Mounting plate is adjustable. It may be located in center of cover so small devices can be mounted on both sides of plate or toward either side of dome cover when larger devices are mounted on one side of plate (see dimension "P")



• NEC:

Class III

GUB3100, GUB3177 Class I, Division 1 & 2, Group D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

GUB1440. GUB1100

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers copper-free aluminum
- Mounting plates sheet steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Sheet steel zinc plated

Options:

Description	Suffix
Material - Bodies, copper-free	
aluminum	SA

Other sizes of boxes and covers available. Information on request



GUB with cover removed showing mounting plate.



GUB with dome cover.

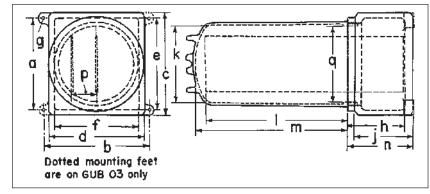
Ordering Information

Body	Nominal Depth of	Dimension		Width of Mounting	
Size	Cover	T	m	Plate	Cat. #
GUB01	4 10	3 ⁵ / ₁₆ 9 ¹³ / ₁₆	4 10 ⁷ / ₁₆	313/16	GUB1440 GUB1100
GUB03	10 17	91/s 163/s	10½ 17⅓ 8	61/2	GUB3100 GUB3177

Conduit seals are required within 1½" of all conduit entrances for Class I, Division 1, Group B hazardous areas. For other sealing requirements consult the National Electrical Code®/Canadian Electrical Code.

Dimensions

In Inches:



Body Size	GUB01	GUB03
а	53/4	103/4
b	71/2	12¹/ ₈
С	7	12
d	61/2	11
е	61/2	10 ³ / ₄
f	57/8	93/4
g	13/32	⁷ / ₁₆
h	43/16	65/8
j	4	65/8
k	5	91/8
I	see listing	
m	see listing	
n	47/8	75/8
р	11/2 max	2 ⁷ / ₈ max
q	51/16	87/8

For conduit liner ordering information, see page 860. †Check Certifications and Compliances for specific hazardous area ratings for each catalog #.

GUB IEC ATEX Junction Boxes are used in threaded rigid conduit systems in hazardous areas:

- To function as a splice box, pull box, or equipment and device enclosure
- · Indoors and outdoors

Features:

- Threaded construction throughout permits use in hazardous areas
- Bodies have thick walls so they can be factory drilled and tapped to meet IEC requirements for Zone 1, 2, 21, and 22 hazardous areas
- · Covers are provided with a neoprene "O" ring gasket to meet NEMA 4 / IP66 requirements for a watertight seal
- Internal grounding lug provides a means to ground enclosed equipment
- Ambient temperature range: -20 to +55°C
- Rated voltage: 690V
- Rated max. current: 250A / in bus-bars 150A-10kA

Certifications & Compliances:

ATEX Certificate: LOM 03ATEX3107U (Empty

Enclosures)

- 🚮 II 2GD Ex d IIC
- EN60079-0:2006
- EN60079-1:2007
- EN60079-11:2007

ATEX Certificate: LOM 04ATEX2018 (Custom Control Panels)

- 🗓 II 2 GD EEx d IIC T4...T6 IP67 T(*) °C Ta: -20°C / +55°C
- EN60079-0:2006
- EN60079-1:2007
- EN60079-11:2007

Metallic Enclosures*

Marking to 94/9/CE

- 🔊 II 2 G EEx d IIC T6 T4†
- 🗓 II 2 D IP67 T‡

EC - Type Examination Certificate

LOM 03 ATEX 3107U

Degree of Protection

• acc. EN60529

Rated Voltage

• 690V

Max. Rated Current

• 250A / in bus-bars 150A - 10kA

· Light alloy, grey coating

Standard Materials:

- Bodies aluminum
- Covers aluminum

Standard Finish:

· Epoxy powder coat finish is standard inside and outside





GUB 00

Custom Control Panel

Options:

Description

- Factory installed mounting plate for relays, terminal blocks, electrical devices, etc.
- Factory installed pushbuttons, signal lamps, switchgear, glass windows
- · Factory installed terminal blocks

Suffix

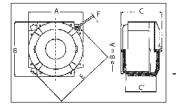
Available upon request (please contact factory)

Available upon request (please contact

Available upon request (please contact factory)

Ordering Information:

Dissipated Power			Power	Rated Current				
	Туре	T 6	T5	T4	Max.	Cat. No.	Kg	Quantity
	GUB 00	60	85	150W	60A	NOR 000 001 160 116	3.20	1
	GUB 20	100	145	255W	150A	NOR 000 001 160 124	6.20	1
	GUB 30	140	200	360W	250A	NOR 000 001 160 132	10.20	1



Dimensions In Millimeters:

	External			Inter	nal	Mounting		
Туре	Α	В	С	Α'	В'	Cı	Е	F
GUB 00	170	170	135	125	125	74	210	9
GUB 20	215	215	195	175	175	139	250	11

Max. Entries per Face

Туре	1/211	3/411	1"	1 1/4"	1 1/2"	2"	2 ¹ / ₂ "
GUB 00	4	3	2	2	2	-	-
GUB 20	6	5	3	2	2	1	1
GUB 30	10	8	5	3	3	2	2

^{*}These enclosures can provide according to LOM 04 ATEX 2018 certification with the following electrical apparatus: Bus-bars, terminals, low voltage transformers, air circuit breakers, automatic circuit breakers, control and operations circuits, servomotors without ventilation, starters and ballasts for discharge lamps, electronic apparatus, associated SI apparatus, etc., according to customer needs.

[†]According to the mounted equipment.

[‡]Available upon request.

Applications:

GUBA series junction boxes are used in threaded rigid conduit and cable systems in hazardous areas:

- To function as a splice box, pull box, or equipment device enclosure
- Indoors and outdoors

Features:

- Threaded construction throughout permits use in hazardous areas
- Wide variety of conduit entry arrangements
- Covers are sealed with "O" ring gasket

Certifications & Compliances:

Type of Protection

Exd

Degree of Protection

• IP66

Gas Group

• IIC

Approvals

ANZEx05.3043X

Standard Materials:

Body and cover - cast copper-free
aluminum

Standard Finish:

Natural

Options:

- Cast iron bodies and covers
- Grey polyurethane finish
- Metric, imperial, NPT, or BSP threads
- Glass window
- Dome covers

Imp. Conduit

Metric

Maximum Number of Entries:

NPT & BSP	1/211	3/411	1"	11/4"	11/2"
Catalog No.					
Top & Bottom					
GUBA01 GUBA02 Sides	6 10	5 8	3 4	2 3	1 2
GUBA01 GUBA02 Back	6 8	5 7	4	3	2
GUBA01 GUBA02	3 4	3 4	-	-	-

20mm 25mm 32mm 40mm 50mm

11/211

2"

11/4"



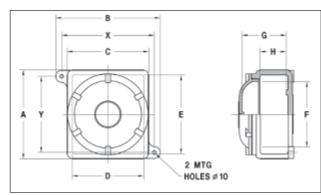
Ordering Information:

Type and Description	Cat. #
Empty enclosure 195mm x 2175mm x 107mm	GUBA01
Flat cover for GUBA01	GUBA0101
Glass window for GUBA01 (gas group IIB only)	GUBA0110
Empty enclosure 253mm x 283mm x 135mm	GUBA02

Note: Entries must be factory drilled, price adder applicable.

Dimensions

In Millimeters:



Dimensional Data:

Internal Dimensions						Weigh	t	
Cat. #	Α	В	С	D	E	F	G	Н
GUBA01	195	220	175	146	146	130	107	76
GUAB02	253	298	233	204	224	185	135	76

	Mounting Dimer	nsions	No. of	Weight
Cat. #	Х	Υ	Mounting Feet	kg
GUBA01 GUAB02	195 264	145 216	2 2	4.2 8.1

manufacturing plants **Features:**

plate cover as standard, allowing for field addition of cover device holes • Stainless steel cover bolts (Style C only)

• Style C boxes provided with aluminum

• Ground joint cover opening provides maximum opening for pulling wires or mounting equipment

 Walls of bodies may be drilled and tapped for conduit entries as shown in listings

- Stud bolts in diagonally opposite corners of body aid in aligning cover to body during installation (not furnished with hinged covers)
- All Style C bodies are provided with captive, triple lead, quick release hex head stainless steel bolts with spring loaded action which provides clear indication that cover bolts are fully retracted from the body
- External flange design wide unobstructed cover opening provides a completely accessible interior for wiring and electrical equipment
- Square corners of enclosure body provide maximum interior space and area for conduit openings
- · Internal grounding lug provides a means to ground enclosed equipment
- · Special neoprene cover gasket provides a watertight seal to meet NEMA 4 requirements, and provides superior protection for enclosed equipment against water/corrosion
- IEC rated when ordered with ATEX suffix
- · Enclosures are machined for field installed mounting plates
- · Detachable mounting feet provide mounting flexibility. No need to replace enclosure if mounting feet are broken.
- · Optional stainless steel hinges provide convenient and easy access for inspection. maintenance and systems changes
- · Enclosures are machined to accept field installed hinges



Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

EJB junction boxes are used in threaded rigid conduit systems in hazardous areas:

- As a junction or pull box
- To provide enclosures for splices and branch circuit taps
- · For housing terminal blocks, relays and other electrical devices
- Indoors or outdoors in damp, wet, dusty, corrosive, hazardous locations
- Where exposure to frequent or heavy rain. water, spray, moisture, and humidity is common, such as: offshore drilling facilities, cooling towers, coal preparation and handling facilities and sewage and waste water treatment plant
- · In areas which are hazardous due to the presence of hydrogen or gases and vapors of equivalent hazard such as found in process industries, missile bases and gas

Certifications and **Compliances:**

NEC/CEC

Class I, Divisions 1 and 2, Groups B*, Ct and D±

EJB121208 with optional hinged cover

Class II, Division 1, Groups E, F and G Class II, Division 2, Groups F and G Class III

Class I, Zones 1 and 2

- UL Standard 1203
- cUL to CSA Standard C22.2 No. 30
- ATEX: Ex d IIB + H₂ T6. IP66 ATEX certificate: PTB 01 ATEX 1020 U
- Enclosure Type 3, 3R, 4, 4X*, 7BCD, 9EFG
- IEC Standard EN:60079-0 and EN:60079-1

Standard Materials:

- Body and cover copper-free aluminum (suffix -SA items and all Style C), Feraloy® iron alloy (Style D)
- · Gasket neoprene
- Cover bolts stainless steel (Style C), steel (Style D)
- Hinges stainless steel

Standard Finishes:

- Copper-free aluminum natural
- · Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Steel electrogalvanized
- Extruded aluminum natural

EJB121208 with optional hinged cover and standard neoprene cover gasket

Options:	
Description	Suffix
 Hinged covers 	
Hinges mounted on left	
(short side)	. S598
Available on all Style C and the	
following Style D enclosures:	
EJB101008-SA, EJB120804,	
EJB120804-SA, EJB120808-SA,	
and EJB141006-SA	
Hinge kits for field installation	
(no field machining required) -	
	F.IR KIT 1

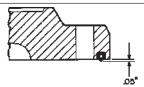
• EJB100806 through 361208	(2 hinges)
• EJB361808	EJB KIT 3 (3 hinges)
• EJB362408	EJB KIT 4 (4 hinges)
• For EJB101008-SA, EJB120804,	- ID KIT -

- EJB120804-SA, EJB120808-SA EJB KIT 5 and EJB141006-SA..... (2 hinges) Factory installed mounting plates for relays, terminal blocks, electrical devices, etc. -
- Aluminum mounting plate kit for field installation (kit includes aluminum mounting plate, pillars and mounting hardware). No field machining required. See Ordering Information on next page.....

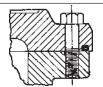
MP Factory installed terminal Information blocks..... on request

ATEX Certified

Gasket Detail



Cross section of cover. Gasket extends beyond flange surface by .05".



Bolted cover and body assembled. Compressed gasket forms watertight seal.

*For Group B, install sealing fitting in each conduit run within 18" of the enclosure. To meet 4X requirement, add suffix

†EJB361208, 361808, 362408 and all style D enclosures require sealing fittings within 18" of enclosure for each conduit run for Group C locations

‡Style D enclosures require sealing fittings within 18" of enclosure for each conduit run for Group D locations. For conduit liner ordering information, see page 860.

Crouse-Hinds

Cl. II, Div. 1 and 2, Groups B, C, I Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III Ex u lib + n2 16, 1866
Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations





NEMA 3, 4, 4X*, 7, 9

Style D

Style C - EJB121208* with optional hinged cover

Nominal Inside Dimensions

			Nominal miside Dimensions					
Style	Material	Cat. #	Sides (aa)	Top & Bottom (bb)	Depth	Mounting Plate		
D	Iron	EJB060404	4	6	4	MP0406		
D	Iron	EJB080604	6	8	4	MP0608		
D	Iron	EJB080606	6	8	6	MP0608		
D	Iron	EJB080806	8	8	6	MP0808		
D	Iron	EJB120804	8	12	4	MP0812		
D	Iron	EJB160404	4	16	4	MP0416		
D	Aluminum	EJB060404 SA	4	6	4	MP0406		
D	Aluminum	EJB080604 SA	6	8	4	MP0608		
D	Aluminum	EJB080606 SA	6	8	6	MP0608		
D	Aluminum	EJB080806 SA	8	8	6	MP0808		
D	Aluminum	EJB120604 SA	6	12	4	MP0612		
D	Aluminum	EJB120804 SA	8	12	4	MP0812		
D	Aluminum	EJB120808 SA	8	12	8	MP0812		
D	Aluminum	EJB160404 SA	4	16	4	MP0416		
D	Aluminum	EJB101008 SA	10	10	8	MP1010		
D	Aluminum	EJB141006 SA	10	14	6	MP1014		
С	Aluminum	EJB100806	8	10	6	MP0810		
С	Aluminum	EJB121204	12	12	4	MP1212		
С	Aluminum	EJB121206	12	12	6	MP1212		
С	Aluminum	EJB121208	12	12	8	MP1212		
С	Aluminum	EJB161606	16	16	6	MP1616		
С	Aluminum	EJB161608	16	16	8	MP1616		
С	Aluminum	EJB181206	12	18	6	MP1218		
С	Aluminum	EJB181208	12	18	8	MP1218		
С	Aluminum	EJB241208	12	24	8	MP1224		
С	Aluminum	EJB241210	12	24	10	MP1224		
С	Aluminum	EJB241808	18	24	8	MP1824		
С	Aluminum	EJB241810	18	24	10	MP1824		
С	Aluminum	EJB242408	24	24	8	MP2424		
С	Aluminum	EJB242410	24	24	10	MP2424		
С	Aluminum	EJB361208	12	36	8	MP1236		
000000000000000000000000000000000000000	Aluminum	EJB361808	18	36	8	MP1836		
С	Aluminum	EJB361810	18	36	10	MP1836		
С	Aluminum	EJB362408	24	36	8	MP2436		
С	Aluminum	EJB602212†	22	60	12	MP2260		

Ordering Information:

Junction boxes listed can be furnished with drilled and tapped openings, subject to material required and the limitations of maximum size and number of openings as well as spacing, as shown in Tables 1 and 2.

To Order:

Step 1

Select the box required from photos at left, listings, and dimensional drawings on next pages.

Step 2

Select standard conduit arrangement from Table 1 and maximum size conduit opening required from Table 2.

Step 3

Select appropriate symbol for required drilled and tapped opening from Table 3.

Example:

Step 1 - Box required - EJB080806

Step 2 – Arrangement – 2

Step 3 – Openings – two 1" drilled and tapped holes in top and bottom and two 2" drilled and tapped holes on each side. Step 4 - Symbols are substituted and written in clockwise order starting with "a." When no opening is required at a particular location, use symbol "0" (zero). For this example: CC, GG, CC, GG. Complete Cat. No. is made up of three parts: Part 1 - box number; Part 2 arrangement number; Part 3 – symbols for conduit openings. For this example: EJB080806-2-CC-GG-CC-GG If none of the standard arrangements meet requirements, send a sketch showing junction box number with size and location of each conduit opening desired.

Ordering Information

Table 1 Conduit Arrangement Diagrams

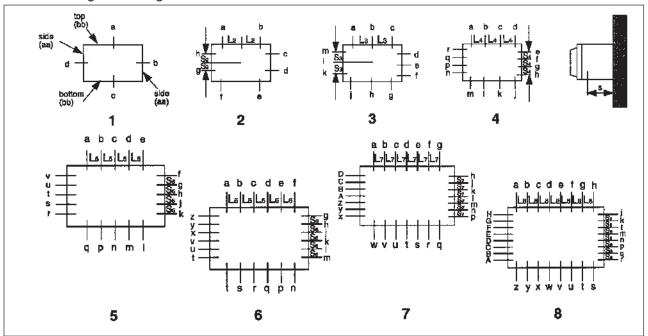


Table 2 Conduit Arrangements – Style D

	Maxin	num Trad	e Size ar	nd Numb	er of Ope	enings			Spac	eina					
	Top and Bottom (bb)*				Sides (aa)			Dimensions							
Cat. #	1	2	`3 ´	4	1	` ź	3	4	S	\mathbb{L}_2	S_2	L₃	S₃	L₄	S ₄
EJB060404	2	11/4	1/2	_	2	1/2	_	_	25/8	1 ⁵ / ₈	11/16	21/8	_	_	_
EJB080604	2	2	1	1/2	2	11/4	1/2	_	25/8	21/8	15/8	23/4	21/8	21/16	_
EJB080606	31/2	2	1	1/2	31/2	11/4	1/2	_	33/4	21/4	15/8	23/4	21/8	21/16	_
EJB080806	31/2	2	1	1/2	31/2	2	1	1/2	33/4	21/4	21/4	23/4	23/4	21/16	21/16
EJB101008	4	21/2	11/2	1	4	21/2	11/2	1	$4^{3}/_{4}$	23/4	23/4	35/8	35/8	29/16	29/16
EJB120604	2	2	2	11/4	2	11/2	1/2	_	23/4	3	15/8	41/8	21/8	31/8	_
EJB120804	2	2	2	11/4	2	2	1	1/2	21/8	3	21/4	41/8	23/4	31/16	21/16
EJB120808	4	4	2	11/4	4	2	1	1/2	$4^{3}/_{4}$	31/4	21/4	41/8	23/4	31/16	21/16
EJB141006	31/2	31/2	21/2	11/2	31/2	21/2	11/2	1	37/8	33/4	23/4	5	39/16	35/8	29/16
EJB160404	2	2	2	2	2	1/2	_	_	25/8	3	11/16	6	_	41/8	_

 $[\]ensuremath{^{\star}}\xspace$ Top and bottom are longer dimensions on enclosures which are not square.

Conduit seals are required in all conduit entrances for Class I, Division 1, Group B hazardous areas, and for EJB361208, EJB361808, EJB361810, EJB362408, and all Style D enclosures when used in Class I, Division 1, Group C hazardous areas. For other sealing requirements, consult the National Electrical Code*. Where standard arrangements are not adequate, special drilling and tapping can be ordered, or instructions can be provided for field drilling and tapping. Breathers and drains must be ordered separately. Maximum trade size for Group B application is 4".

2

23/4

23/4

2

23/4

23/4

23/4

23/4

23/4

37/8

37/8

37/8

37/8

Ordering Information

EJB Junction Boxes

Table 2 - Continued Conduit Arrangements - Style C Drilled and Tapped Openings - Groups B‡, C and D Maximum Trade Size and Number of Openings Top and Bottom (bb)* Cat. # 5 6 7 8 EJB100806 31/2 11/2 31/2 21/2 3/4 EJB121204 11/2 11/2 11/2 11/4 3/4 1/2 11/2 11/2 11/2 11/4 1/2 EJB121206 31/2 31/2 11/2 11/4 3/4 1/2 31/2 31/2 11/2 11/4 $\frac{3}{4}$ 1/2 3/4 EJB121208 31/2 11/2 11/4 3/4 1/2 31/2 11/2 11/4 1/2 5 5 3/4 31/2 3/4 EJB161606 31/2 2 21/2 31/2 21/2 11/2 11/4 1 31/2 2 11/2 11/4 1 2 EJB161608 3/4 5 5 3 11/2 11/4 3/, 5 3 11/2 11/4 1 31/2 EJB181206 31/2 31/2 21/2 11/2 11/2 3/4 31/2 31/2 11/2 11/4 $\frac{3}{4}$ 1/2 EJB181208 5 5 31/2 21/2 2 11/2 5 31/2 11/2 11/4 $\frac{3}{4}$ $\frac{1}{2}$ EJB241208 5 5 5 31/2 3 21/2 2 11/2 5 31/2 11/2 11/4 EJB241210 6 6 5 31/2 3 21/2 2 6 31/2 11/2 11/4 EJB241808 5 5 5 31/2 3 21/2 5 31/2 21/2 2 11/4 11/2 11/2 6 5 3 2 6 2 EJB241810 6 31/2 21/2 6 31/2 21/2 11/2 11/4 11/2 5 2 3 EJB242408 31/2 3 21/2 31/2 21/2 2 11/2 5 5 11/2 5 5 5 5 21/2 2 3 EJB242410 6 6 31/2 3 11/2 6 6 5 31/2 21/2 2 11/2 EJB361208 31/2 21/2 11/2 11/4 5 5 5 5 4 4 5 31/2 3/4 1/2 5 EJB361808 5 5 5 4 4 31/2 21/2 5 5 31/2 21/2 2 11/2 11/4 1 21/2 5 5 EJB361810 6 6 4 4 31/2 6 6 31/2 21/2 11/2 11/4 EJB362408 5 5 5 4 4 31/2 21/2 5 5 5 31/2 3 21/2 2 11/2 **Spacing Dimensions†** Cat. # L2 **S2** L3 **S**3 L4 **S**4 L5 **S**5 L6 **S**6 L7 S7 L8 S8 EJB100806 23/4 17/8 3 23/8 21/4 13/4 EJB121204 21/4 21/4 35/8 35/8 31/16 31/16 2 13/4 13/4 11/2 3 2 2 EJB121206 33/4 3 35/8 35/8 31/16 31/16 13/4 13/4 11/2 11/2 2 EJB121208 35/8 35/8 $4^{3}/_{4}$ 3 3 31/16 31/16 13/4 13/4 11/2 11/2 23/4 23/4 33/4 3 45/8 45/8 21/2 21/2 2 13/4 13/4 EJB161606 3 43/16 43/16 2 23/4 23/4 2 13/4 EJB161608 45/8 45/8 43/16 43/16 21/2 21/2 2 43/4 31/4 31/4 13/4 EJB181206 33/4 3 3 6 35/8 45/8 31/16 23/4 2 23/4 13/4 2 11/2 13/4 2 2 EJB181208 43/4 43/16 3 6 35/8 $4^{5/8}$ 31/16 31/4 23/4 13/4 11/2 2 2 EJB241208 51/8 43/16 3 87/16 35/8 6 31/16 45/8 37/8 2 31/4 11/2 23/4 EJB241210 61/8 43/4 3 87/16 35/8 6 31/16 45/8 37/8 31/4 11/2 23/4

Conduit seals are required in all conduit entrances for Class I, Division 1, Group B hazardous areas, and for EJB361208, EJB361808, EJB361810, EJB362408, and all Style D enclosures when used in Class I, Division 1, Group C hazardous areas. For other sealing requirements, consult the National Electrical Code*. Where standard arrangements are not adequate, special drilling and tapping can be ordered, or instructions can be provided for field drilling and tapping. Breathers and drains must be ordered separately. Maximum trade size for Group B

Table 3 Symbols for Openings

EJB241808

EJB241810

EJB242408

EJB242410

EJB361208

F.JB361808

EJB361810

EJB362408

Cyllibola ioi	Opermigo
Conduit Size	Drilled and Tapped Hole Symbol
1/2	A
3/4	В
1	С
11/4	E
11/2	F
2	G
21/2	Н
3	J
31/2	K
4	L
5	M
6	N
None	0

51/4

61/4

53/8

6³/₈

 $4^{3}/_{4}$

51/2

61/2

6

43/16

43/4

43/16

 $4^{3}/_{4}$

47/16

 $4^{7}/_{16}$

43/4

 $4^{3}/_{4}$

43/16

43/4

43/16

43/4

47/16

 $4^{3}/_{4}$

43/16

3

87/16

87/16

87/16

87/16

87/16

87/16

87/16

87/16

6

6

87/16

87/16

35/8

6

6

87/16

6

6

6

6

87/16

87/16

87/16

87/16

45/8

45/8

31/16

45/8

87/16

6

6

6

45/8

45/8

45/8

45/8

 $5^{3}/_{4}$

 $5^{3}/_{4}$

 $5^{3}/_{4}$

53/4

31/4

31/4

45/8

45/8

31/4

31/4

45/8

2

37/8

37/8

37/8

37/8

 $5^{3}/_{4}$

 $5^{3}/_{4}$

 $5^{3}/_{4}$

 $5^{3}/_{4}$

23/4

23/4

37/8

37/8

13/4

23/4

23/4

37/8

31/4

31/4

31/4

31/4

51/8

51/8

51/8

51/8

21/2

21/2

31/4

31/4

11/2

21/2

21/2

31/4

For conduit liner ordering information, see page 860.

[‡]Maximum trade size for Group B applications is 4".

^{*}Top and bottom are longer dimensions on enclosures which are not square. †Spacing dimensions for Group B boxes are based on use of EYS11-101 sealing fitting in conduit.

Dimensions

Dimensions

In Inches:

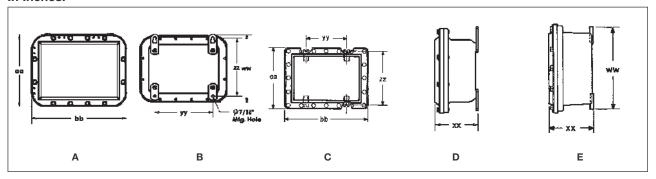


Table 4Outside Dimensions

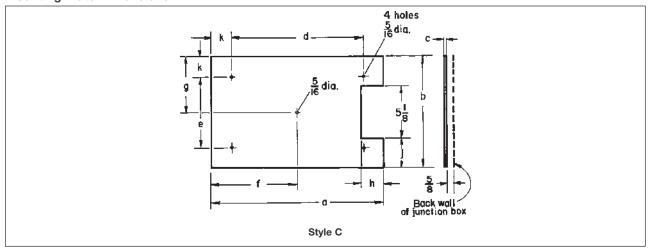
Cat. #	Diagram	aa	bb	Mtg. Hole	ww	XX	уу	ZZ	(lbs.) w/ Cover
EJB060404 EJB080604 EJB080806 EJB120804 EJB160404 EJB606004 SA EJB080606 SA EJB080606 SA EJB120604 SA EJB120804 SA EJB120804 SA EJB120804 SA EJB120804 SA EJB120804 SA	A, B, D	811/32 1015/32 1015/32 1215/32 121/2 81/2 811/32 1015/32 1015/32 1015/32 1215/32 101/2 121/2 81/2 1421/32	10 ¹¹ / ₃₂ 12 ¹⁵ / ₃₂ 12 ¹⁵ / ₃₂ 12 ¹⁵ / ₃₂ 16 ¹ / ₂ 20 ¹ / ₂ 10 ¹¹ / ₃₂ 12 ¹⁵ / ₃₂ 12 ¹⁵ / ₃₂ 12 ¹⁵ / ₃₂ 12 ¹⁵ / ₃₂ 16 ¹ / ₂ 16 ¹ / ₂ 20 ¹ / ₂ 14 ²¹ / ₃₂ 18 ²¹ / ₃₂	7/16 7/16 7/16 7/16 7/16 7/16 7/16 7/16	83/4 10 ²⁵ /s ₂ 10 ²⁵ /s ₂ 12 ²⁵ /s ₂ 12 ¹³ /s 8 ¹³ /s 8 ¹³ /s 10 ²⁵ /s ₂ 10 ²⁵ /s ₂ 10 ²⁵ /s ₂ 10 ¹³ /s 12 ¹³ /s 8 ¹³ /s 12 ¹³ /s 14 ¹⁷ /s	61/6 63/16 83/16 87/32 63/6 65/32 61/6 83/16 83/16 87/32 63/16 63/6 103/6 65/32 103/6 815/32	5 7 7 7 11 15 5 7 7 7 11 11 11 15 9	71/s 91/s 91/s 111/s 111/s 71/s 71/s 91/s 91/s 111/s 91/s 111/s 71/s 131/s 131/s	43 64 84 98 103 86 16 24 32 37 32 39 56 33 59 66
EJB100806 EJB121204 EJB121208 EJB161608 EJB161608 EJB181208 EJB241208 EJB241210 EJB241808 EJB242408 EJB242408 EJB242408 EJB242408 EJB361808 EJB361808 EJB361808	C and E	13 ¹ / ₃₂ 17 ¹ / ₁₆ 17 ¹ / ₁₆ 17 ¹ / ₁₆ 17 ¹ / ₁₆ 21 ³ / ₁₆ 21 ³ / ₁₆ 21 ⁵ / ₁₆ 17 ⁵ / ₁₆ 17 ⁵ / ₁₆ 23 ⁹ / ₁₆ 29 ⁹ / ₁₆ 17 ¹ / ₁₆ 23 ¹⁵ / ₁₆ 23 ¹⁵ / ₁₆ 23 ¹⁵ / ₁₆ 30 ³ / ₁₆	15½2 17½6 17½6 17½6 21¾6 21¾6 23½6 23½6 23½6 29½6 29½6 29½6 29½6 41½6 41½6 41½6 41½6 42¾6	9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16	121/4 161/8 161/8 201/8 201/8 201/8 161/8 161/8 161/8 231/2 291/2 291/2 231/2 231/2 231/4 311/4	8°/16 61°3/16 87/6 107/8 87/8 107/6 87/8 107/6 11°3/4 12°1/4 12°5/16 14°5/16 11°1/16 12°7/16 14°1/4 12°5/16	5½ 5½ 5½ 5½ 9½ 9½ 11½ 17½ 17½ 17½ 21½ 28½ 28¼ 28¼ 28¼	111/4 151/6 151/6 151/6 191/6 191/6 151/6 155/6 155/6 217/6 277/6 277/6 217/6 217/6 217/6 217/6 217/6	60 60 70 80 103 113 101 110 149 160 243 296 322 185 351 396 571

For conduit liner ordering information, see page 860.

Net Weight

Mounting Plate Dimensions

Table 5 Mounting Plate Dimensions



Style C										
Cat. #	а	b	С	d	е	f	g	h	j	k
MP0810‡	9	7	0.125	7	5			13/8	11/2	1
MP1212‡	11	11	0.125	9	9			13/8	11/2	1
MP1616‡	15	15	0.125	13	13			1³/ ₈	11/2	1
MP1218	17	11	0.125	13	7	81/2	51/2	23/8	21/2	2
MP1224	23	11	0.125	19	7	111/2	51/2	23/8	21/2	2
MP1824	22	16	0.125	19	13	11	8	17/8	2	11/2
MP2424	22	22	0.125	19	19	11	11	17/8	2	11/2
MP1236	34	10	0.125	31	7	17	5	17/8	2	11/2
MP1836	331/2	151/2	0.125	31	13	163/4	73/4	15/8	13/4	11/4
MP2436	34	22	0.125	31	19	17	11	17/8	2	11/2

‡Plate has no center hole.

^{*}Certifications and Compliances see page 730.

For conduit liner ordering information, see page 860.

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 7, 9

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Applications:

EJB602212 junction box is used in threaded rigid conduit systems in hazardous areas:

- As a junction or pull box
- As an enclosure for splices and branch circuit taps
- · For housing terminal blocks, relays, and other electrical devices
- As a mounting box for multi-device control panels with EMP barrel assemblies (see section 5C)
- · Indoors or outdoors in damp, wet, dusty, corrosive locations
- Where exposure to frequent or heavy rain, water, spray, moisture, and humidity is common, such as: offshore drilling facilities, cooling towers, coal preparation and handling facilities, and sewage and waste water treatment plants
- Which are hazardous due to the presence of gases or vapors such as those found in process industries, missile bases, and gas manufacturing plants

Features:

- Ground joint cover opening provides maximum opening for pulling wires or mounting equipment
- Walls of enclosure may be drilled and tapped for conduit entries as shown in
- External flange design wide unobstructed cover opening provides a completely accessible interior for wiring and electrical equipment
- Square corners of enclosure body provide maximum interior space and area for conduit openings
- Flat cover provides maximum space for mounting a greater number of control
- Internal grounding lug provides a means to ground enclosed equipment
- Special neoprene cover gasket provides a watertight seal to meet UL Type 4 (NEMA 4) requirements, and provides superior protection for enclosed equipment against water/corrosion
- · Stainless steel cover bolts provide superior corrosion protection
- Enclosure is machined for field installed mounting plates
- · Detachable mounting channels provide mounting flexibility. No need to replace enclosure if mounting channel is broken
- · Aluminum hinges provide convenient and easy access for inspection, maintenance, and systems changes
- · Safety chain attached to body and cover prevents accidental damage to hinges

Certifications and **Compliances:**

• NEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- · UL Raintight
- CSA 22.2 No. 18 and 30
- NEMA 3. 4. 7CD. 9EFG

Standard Materials:

- Body and cover copper-free aluminum
- Gasket neoprene
- Cover bolts stainless steel
- Hinges extruded aluminum

Standard Finishes:

- Copper-free aluminum natural
- Extruded aluminum natural
- Stainless steel natural
- Neoprene natural

Options:

Description Suffix

Mounting plate kit for field installation (kit includes aluminum mounting plate, pillars, and mounting

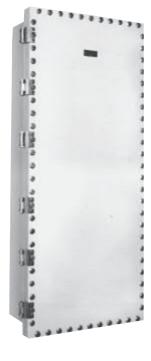
Factory installed aluminum

mounting plate for relays, terminal blocks, electrical devices, etc.....

MP

Ordering Information:

EJB602212 can be furnished with drilled and tapped openings, subject to the limitations of maximum size and number of openings as well as spacing, as shown in Tables 1 and 2.



To Order:

Step 1

Specify box catalog number - EJB602212

Step 2

Select standard conduit arrangement from Table 1 and maximum allowable size conduit opening from Table 2.

Select appropriate symbol for required drilled and tapped opening from Table 3.

Example:

Step 1 – Box Cat. No. – EJB602212 Step 2 – Arrangement – 2

Step 3 - Openings - two 2" drilled and tapped holes in top and bottom and two 2½" drilled and tapped holes evenly spaced on each side.

Step 4 - Symbols are substituted and written in clockwise order starting with "a". When no opening is required at a particular location, use symbol "0" (zero). For this example:GG-0H0H0-GG-0H0H0. Complete Cat. No. is made up of three parts:

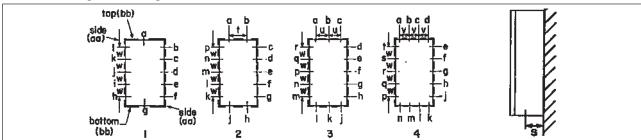
Part 1 - box number;

Part 2 - arrangement number;

Part 3 – symbols for conduit openings. For this example the catalog number is: EJB602212-2-GG-0H0H0-GG-0H0H0.

For conduit liner ordering information, see page 860





NEMA 3, 4, 7, 9

Table 2 **Conduit Arrangements**

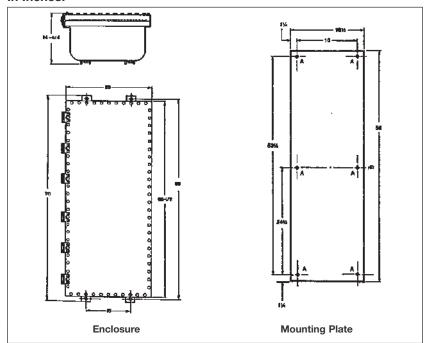
	Maximum Trade Size and Number of Openings									Spacing Dimensions					
	Top an	d Botto	m (bb)		Sides	(aa)									
	1	2	3	4	1	2	3	4	5	s	t	u	V	w	
EJB602212†	6	6	4	3	6	6	6	6	6	63/4	10	7	5³/ ₈	10	

Table 3 **Symbols for Openings**

Conduit Size	Drilled and Tapped Hole Symbol
1/2	A
3/4	В
1	C
11/4	E
11/2	F
2	G
21/2	H
3	J
31/2	K
4 5	L
	M
6	N
none	0

Conduit sealing fittings are required on all conduit entrances (within 18" of the enclosure) when used in Class I, Division 1, Group C hazardous areas. For other sealing requirements consult the National Electrical Code."

Dimensions In Inches:



Nominal Inside Dimensions Sides Top & Bottom Depth 60 22 12

For conduit liner ordering information, see page 860. †Class I, Div. 1 and 2, Groups C and D only.

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Globally Certified—Individually Customized

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. I, Zones 1 & 2

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

Cl. III

UL and cUL approved Ex d IIB + H₂ T6 Certified to ATEX Directive† NEMA 3, 7B*CD, 9EFG IP66

The following pages will assist you in choosing the combination of features suited to your needs and requirements. The easy, five-step process will take you through the specification of cover openings, specifying devices, drilled and tapped conduit openings, device locations, and legend and nameplate selection.

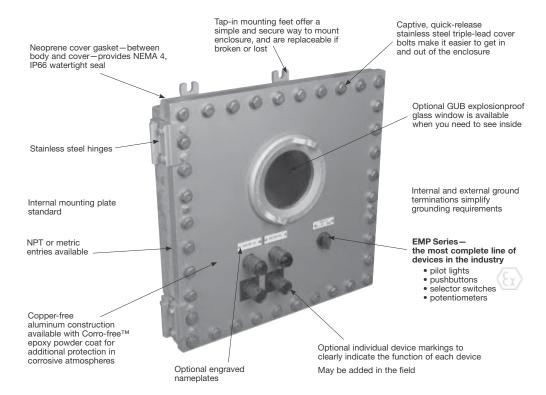
After filling out your separate order form for each panel, fax it to your local Eaton's Crouse-Hinds Distributor. Please consult the factory for alternatives not detailed in these pages, such as other conduit arrangements, terminal blocks, or circuit breaker operating handles.

Applications:

- Manufactured for hazardous environments, the EJB Custom-Built Control Panel is an explosion proof enclosure built to customer specific requirements
- Available in a variety of sizes with an unlimited combination of devices, windows, and markings, these panels are designed to maximize the efficiency of each unique process

Features:

• The foundation of the Custom-Built Control Panel is our tried and tested copper-free aluminum EJB enclosure. This corrosion resistant, heavy-duty enclosure features bolted construction, stainless steel hinges, and flexible tap-in mounting feet.



Certifications and Compliances: EJB Custom Control Panels

• NEC/CEC:

Class I, Divisions 1 & 2, Groups B*, C and D

Class I, Zones 1 & 2

Class II, Division 1, Groups E, F and G Class II, Division 2, Groups F and G

Class III

• NEMA: 3, 7B*CD, 9EFG

• cUL to CSA Standard C22.2 No. 30-C22.2 No. 25 Cl. II (E, F, G)

• Ex d IIB + H₂ T6

• UL Standard 1203

IP66

• Certified to the ATEX Directive when ordered with -ATEX suffix.

 Custom Control Panel is component certified only. For assembly certification, please consult factory.

*Groups C and D only when ordered with GUB window. † Certified to the ATEX Directive when ordered with ATEX suffix.

ATEX Certifications

• EJB Enclosure with Conduit Entries & Device Holes

II 2 G Ex d IIB + H₂

Certificate #: ITS08ATEX15797U

EMP Devices

II 2 G Ex d IIB + H₂

Certificate #: ITS07ATEX15652U

• GUB0108 ATEX Window

II 2 G Ex d IIB + H₂

Certificate #: ITS07ATEX15638U

ECD Breather/Drain

II 2 G Ex d IIB + H₂

Certificate #: ITS07ATEX15639U



EJB Custom-Built Control Panels

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Ordering and receiving Eaton's Crouse-Hinds EJB Custom-Built Control Panels is now easier and faster than ever. Follow the steps below, fill out a separate order form for each panel, and fax it to your local Eaton's Crouse-Hinds Distributor. It's as simple as that!

Easy Five Step Ordering Process:

- 1 Specify cover openings and devices.
- 2 Specify conduit openings.
- **3** Determine device arrangement.
- **4** Specify device location.
- **5** Specify legend and nameplates.

Step 1

Specify the openings required for the cover of the enclosure.

Indicate in Section 1 of the order form the combination of devices, openings without devices, and windows required.

Total the number of device openings required based on the devices, openings and windows specified in Section 1.

Using Table 1, you can determine the smallest size enclosure required based upon the total number of devices/openings and the number of devices a window requires. (NOTE: The actual size of your custom panel enclosure may change based on the number and size of your entry requirements.)

- 4						
TABLE	ı	DEVICE	E AND	WINDO	W INFORMATION	
Total # of Openings /		Device Layout			EJB Enclosure Catalog Number	
9	=	3	Χ	3	EJB100806	
16	=	4	Χ	4	EJB121204	
16	=	4	Χ	4	EJB121206	
16	=	4	Χ	4	EJB121208	
36	=	6	Χ	6	EJB161606	
36	=	6	Χ	6	EJB161608	
24	=	6	Χ	4	EJB181206	
24	=	6	Χ	4	EJB181208	
36	=	9	Χ	4	EJB241208	
36	=	9	Χ	4	EJB241210	
54	=	9	Χ	6	EJB241808	
54	=	9	Χ	6	EJB241810	
81	=	9	Χ	9	EJB242408	
81	=	9	Χ	9	EJB242410	
52	=	13	Χ	4	EJB361208	
78	=	13	Χ	6	EJB361808	
78	=	13	Χ	6	EJB361810	
117	=	13	Χ	9	EJB362408	

Requires same area as 12 devices. May be installed in all boxes.



GUB0108—Symbol W 4-3/4" dia. viewing area

SIZE REQUIREMENTS						
EJB Size	Max. No. Windows					
121204 to 181208	1					
241208 to 362408	2					

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EJB Custom-Built Control Panels

Step 2

Specify the number, size and location of conduit openings required on the sides, top and bottom of the enclosure body using the information in Tables 2. 3, and 4.

Refer to Table 2 to determine if the enclosure selected in Step 1 will accommodate the required conduit openings. From Table 3, determine the symbol(s) that correspond with the required conduit openings.

Place these symbols in the desired positions using the conduit arrangement diagrams in Table 4.

Any combination of the four arrangement diagrams may be used per side and all positions on a side with openings must have a symbol. The side number (1, 2, 3 or 4) must precede the conduit opening(s) symbols for the respective side. When a side of the enclosure does not require any conduit openings, the side number is omitted from the catalog number.

Enter the complete catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted. Check boxes in Section 2 for options desired.

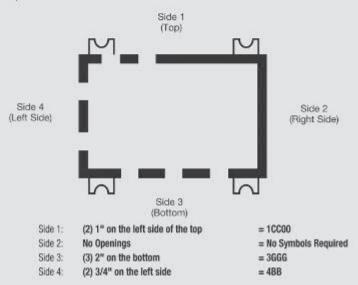
Example:

In Step 1, customer selects an EJB161606 based on the number of devices/openings specified (See Section 1 of sample order form). The following conduit openings are required: (2) 1* on the left side of the top; no openings on the right side; (3) 2" on the bottom; and (2) 3/4" on the left side.

Table 2 indicates the maximum size allowed for three conduit openings in an EJB161606 is 2-1/2". Therefore, an EJB161606 would be suitable.

Table 3 indicates a 3/4" opening is symbol B, a 1" opening is symbol C, a 2" opening is symbol G and no opening is a 0.

Using the conduit arrangement diagrams in Table 4, place the symbols for the desired openings in the appropriate positions. Remember, any combination of the four arrangement diagrams may be used and all positions on a side with openings must have a symbol even if no opening is required in a particular position.



Complete catalog number is: EJB161606-10C003GGG4BB. Enter the completed catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted.

EJB Custom-Built Control Panels

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TABLE	4						CON	DUIT A	RRAN	GEMENT	rs				
		Maximu	ım Trad	e Size a	nd Numi	ber of O	penings				Spa	cing Dime	nsions		
	To	p and B	Bottom (t	ob)		Side	s (aa)								
CAT#	1	2	3	4	1	2	3	4	S	T	U	V	W	Х	Y
Drilled and T	apped O	penings													
EJB100806	3-1/2	3	1-1/2	1-1/4	3-1/2	2-1/2	1-1/4	3/4	3-3/4	2-5/16	1-15/16	2-3/4	2-1/2	2-1/2	1-3/4
EJB121204	1-1/2	1-1/2	1-1/2	1-1/4	1-1/2	1-1/2	1-1/2	1-1/4	3	2-1/4	2-1/4	3-5/8	3-5/8	3-1/16	3-1/16
EJB121208	3-1/2	3-1/2	1-1/2	1-1/4	3-1/2	3-1/2	1-1/2	1-1/4	3-3/4	3	3	3-5/8	3-5/8	3-1/16	3-1/16
EJB121208	5	3-1/2	1-1/2	1-1/4	5	3-1/2	1-1/2	1-1/4	4-3/4	3	3	3-5/8	3-5/8	3-1/16	3-1/16
EJB161606	3-1/2	3-1/2	2-1/2	2	3-1/2	3-1/2	2-1/2	2	3-3/4	3	3	4-5/8	4-5/8	4-3/16	4-3/16
EJB161608	5	5	3	2	5	5	3	2	4-3/4	3-1/4	3-1/4	6	4-5/8	4-3/16	4-316
EJB181206	3-1/2	3-1/2	3-1/2	2-1/2	3-1/2	3-1/2	1-1/2	1-1/4	3-3/4	3	3	- 6	3-5/8	4-5/8	3-1/16
EJB181208	5	5	3-1/2	2-1/2	5	3-1/2	1-1/2	1-1/4	4-3/4	4-3/16	3	6	3-5/8	4-5/8	3-1/16
EJB241208	5	5	5	3-1/2	5	3-1/2	1-1/2	1-1/4	5-1/8	4-3/16	3	8-7/16	3-5/8	6	3-1/16
EJB241210	Б	6	5	3-1/2	6	3-1/2	1-1/2	1-1/4	6-1/8	4-3/4	3	8-7/16	3-5/8	6	3-1/16
EJB241808	5	5	5	3-1/2	5	5	3-1/2	2-1/2	5-1/4	4-3/16	4-3/16	8-7/16	6	6	4-5/8
EJB241810	6	6	5	3-1/2	6	6	3-1/2	2-1/2	6-1/4	4-3/4	4-3/4	8-7/16	6	6	4-5/8
EJB242408	5	5	- 5	3-1/2	5	5	5	3-1/2	5-3/8	4-3/16	4-3/16	8-7/16	8-7/16	6	- 6
EJB242410	6	-6	5	3-1/2	6	6	5	3-1/2	6-3/8	4-3/4	4-3/4	8-7/16	8-7/16	6	6
EJB361208	5	5	5	- 5	5	3-1/2	1-1/2	1-1/4	4-3/4	4-7/16	3	8-7/16	3-5/8	8-7/16	3-1/16
EJB361808	5	5	5	5	5	5	3-1/2	2-1/2	5-1/2	4-7/16	4-7/16	8-7/16	6	8-7/16	4-5/8
EJB361810	- 6	- 6	5	5	6	6	3-1/2	2-1/2	6-1/2	4-3/4	4-3/4	8-7/16	6	8-7/16	4-5/8
EJB362408	5	5	- 5	- 5	5	- 5	5	3-1/2	6	4-3/16	4-3/16	8-7/16	8-7/16	8-7/16	6

TABL	ES SYMB	OLS FOR O	PENINGS	TABLE4 CONDUIT ARRANGEMENT DIAGRAMS
NPT Conduit Size	Drilled & Tapped Hole Symbol	Metric Openings	Drilled & Tapped Hole Symbol	Top (bb) a (Side 1) at t t +
1/2	A	M16	AM	Side Side (aa) h
3/4	В	M20	BM	d-0 -0-0 <u>"</u>
1	C	M25	DM	(Side 4) U U U U U U U U U U U U U U U U U U
1-1/4	E	M32	EM	
1-1/2	F	M40	FM	Bottom c (Side 3) f e
2	В	M50	GM	(bb) a b c a b c d
2-1/2	Н	M63	HM	
3	J	0.002.7	1 11.00	m-t-1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
3-1/2	К			1
4	L			kowo o o o o o o o
5	M			المحمدات المحمدات
6	N			j h g m l k j

Step 3

Based upon the EJB selected, use Section 3 of the order form and outline the maximum number of columns and rows available (from Table 1) beginning in the upper left corner. Fill in the length of each side in the space provided.

Note that the left side will be hinged unless otherwise specified in Section 2. In our example, an EJB161606 was selected and according to Table 1, a total of 36 device spaces are available (6 columns and 6 rows). See sample order form.

Step 4

Place the appropriate letter symbol from Section 1 of the order form in the position you desire the devices or openings to be located. If a window is required, outline the position and number of spaces the window will occupy and place the symbol of the window (w) in the center.

Note that 2 windows per enclosure can be used. If more windows are required contact factory. (See appropriate window information in the sample order form.)

EJB Custom-Built Control Panels 1E

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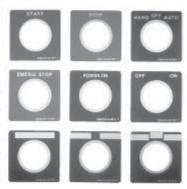
Step 5

Indicate the desired device marking (DSL legend plate) or engraved plate for each device or window in Section 4 of the order form.

Engraved plates will be located above the device or window and are white letters on a black background. If an engraved plate is desired, fill in desired wording on engraved plate (up to 2 lines) on Section 4 of order form. If a device marking is required on EMP device, insert the DSL catalog number from those listed below (Table 5) on Section 4 of order form under column labeled "Device Marking." Be sure to specify the row and column location of the EMP device being marked. See sample order form.

That's it. It's that simple. Now fax the order form to your local Eaton's Crouse-Hinds Distributor.

Use the charts below	v to select the	appropriate legend plate(s		cation. Markings shown	in bold print a	
Single Function Legend Plates		etched: all others Double Function Leg		Triple Function Legend Plates		
Marking	Cat #.	Marking	Cat #.	Marking	Cat #.	
Automatic	DSL16	Blank with 2 fields	DSL03	Auto-Otf-Hand	DSL49	
Blank	DSL01	For-Rev	DSL30	Blank with 3 fields	DSL04	
Blank with single field	DSL02	Hand-Auto	DSL29	Fast-Off-Slow	DSL41	
Close	DSL21	In-Out	DSL35	For-Off-Rev	DSL40	
Down	DSL23	0ff-0n	DSL48	Hand-Off-Auto	DSL39	
Emerg. Stop	DSL17	Open-Close	DSL32	Run-Off-Jog	DSL38	
Fast	DSL46	Raise-Lower	DSL36	Open-Off-Close	DSL43	
Forward	DSL18	Run-Jog	DSL28	Raise-Off-Lower	DSL87	
Hand	DSL15	Safe-Run	DSL86	Slow-Off-Fast	DSL88	
In	DSL24	Start-Stop	DSL37	Up-Off-Down	DSL44	
Jog	DSL10	Slow-Fast	DSL65	1-0ff-2	DSL42	
Lower	DSL27	Up-Down	DSL33	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
On	DSL07			Note: Backgroun legend plates is		
Off	DSL08			following ex		
0pen	DSL20					
Out	DSL25			Marking	Plate Color	
Power Ov	DSL14			Start	Green	
Raise	DSL26	3		Stop	Red	
Reset	DSL12			Emerg. Stop	Red	
Reverse	DSL19					
Run	DSL09					
Safe	DSL85					
Slow	DSL47	Y		12		
Start	DSL05					
Stop	DSL06	,		A.5		
Test	DSL13					
Trip	DSL11					
Up	DSL22					



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Please photocopy and fax all pages of order form (Sections 1-4) to your local Eaton's Crouse-Hinds Distributor.

Section 1: EMP Style Operators—UL, cULus and ATEX

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

Pilot Lights			
	Diagram	Symbol	Quantity
EMP009-J1 (Red)		A	
EMP009-J1-LED		A1	
EMP0090-J1		A2	
EMP0098-J1		A4	
EMP009-J3 (Green)		В	
EMP009-J3-LED		B1	
EMP0090-J3		B2	
EMP0098-J3	⊕ (120\A	B4	
EMP009-J6 (Amber)	(120V)	C	
EMP009-J6-LED		C1	
EMP0090-J6		C2	
EMP0098-J6		C4	
EMP009-J10 (Clear)		E	
EMP0090-J10		E2	
EMP0098-J10		E4	
EMP009-J11 (Blue)		F	
EMP0090-J11		F2	
EMP0098-J11		F4	

Pushbuttons - Single Pushbutton							
		Diag	ıram	Symbol	Quantity		
EMP019 (Black)	1			G			
EMP019 (Red)	}	**	:	н			
EMP019 (Green)	J	Uo	Down	J			
EMP098 (Red)		A1 #1# A2 * *	A2 0 0	К			

Pushbuttons – Double Pushbutton, Single Operator							
		Diagram	Symbol	Quantity			
EMP029 (Black)	1		L				
EMP029 (Red)	}	818 818	М				
EMP029 (Green)	J		N				

Pushbuttons - Double Pushbutton, Double Operator							
	Diagram	Symbol	Quantity				
EMP039	ala ala	Р					

Selector Switches - Two position							
		Diagram	Symbol Quantity				
EMP049	}	Position 1	Q				
EMP059	}	Position 1 Position 2 A1 ** ** ** ** ** ** ** **	R				

Selector Switches - Three position							
	Diagram	Symbol Quantity					
EMP069 EMP069-S634 EMP069-S635	Position 1	S S4					
EMP079 EMP079-S634 EMP079-S635	Position 1 Position 2 Position 5 M <u>all a</u> M <u>all a</u> M <u>e je</u> M e je M e j	T T4 T5					
EMP089 EMP089-S634 EMP089-S635	Position 1 Position 2 Position 3 All experiments All experiment	U U4 U5					

Selector Switches - Keyed Selector Switches							
	Diagram	Symbol	Qty				
EMP0491 EMP0492 EMP0493	Position 1 Position 2 At <u>all 8</u> At <u>0.10</u> At 0.00 At 0.00	Q6 Q7 Q8	\equiv				
EMP0591 EMP0592 EMP0593		R6 R7 R8	\equiv				
EMP0691 EMP0692 EMP0693 EMP0694	Residen 1	S6 S7 S8 S9					
EMP0791 EMP0792 EMP0793 EMP0794	A \$12 0 512 A 510 0 510 A 510 0 510	T6 T7 T8 T9					
EMP0891 EMP0892 EMP0893 EMP0894	Moje mais Mais mais Mais Moje Moje Moje Moje Moje Moje Moje Moje	U6 U7 U8 U9					

Total Number of all Devices on this page

1E EJB Custom-Built Control Panels

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Section 1: EMP Style Operators Continued

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

	The manuscript con-
	Symbol Quantit
3/4" - 14 NPSM Opening (plugged)	v

Windows			
GUB0108	Symbol	Quantity	# of Openings

Total Number of all Device
Openings from previous page _____
Total Number of all Devices /
Openings from Section 1

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Section 2	Distributor: Contact:	
	Customer: Phone Number:	
Completed Catalog Number:	EATON'S CROUSE-HINDS FACTORY USE ONLY	
Specify the complete catalog number including conduit designations.	Catalog Number Entered:	
conduit designations.	Reference #: B#	
EJB	OPTIONS	
All Eaton's Crouse-Hinds Custom-Built Control Panels are provided with a mounting plate and hinges. Hinges are on left side of enclosure. If you desire hinges on one of the other sides, circle choice here: TOP RIGHT BOTTOM	For any of the following options, check here: ATEX Certified (ATEX) Breather and Drain (S756V) Epoxy finish, external (S752) Epoxy finish, internal and external (S753)	
Section 3—Exterior Front View	Size Top (column) 1 2 3 4 5 6 7 8 9 10 11 12	10
Location of Devices and Windows in Cover:		13
Outline the cover space available, beginning	400000000000000000000000000000000000000	
in the upper left corner of the grid, based	B () () () () () () () ()	\bigcirc
upon the EJB selected. See Table 1 for	000000000000000000000000000000000000000	
device layout.		\bigcirc
<u> </u>		\bigcirc
Section 4		\bigcirc
Section 4 Device Markings: Indicate by row and column position markings/legends for each device.		\bigcirc
Indicate by row and column position		
markings/legends for each device.		
Engraved Plate:	1000000000000	
Specify markings for each nameplate based upon	1000000000000	\bigcirc
the following:	$K \bigcirc \bigcirc$	
Maximum Number of Characters/Line		
Marking Size 1/8" 3/16" 1/4" 1/2"	"00000000000000000000000000000000000000	
Number of	Bottom	\bigcirc
Characters 36 24 18 9	Note: All device openings are spaced 2.62" center to center.	
Specify		
Row Column Device Marking (DSL) or Engraved Plate Lin	ne 1 Engraved Plate Line 2 Marking	g Size
		\dashv
		\Box

EJB/EJW IEC ATEX Enclosures are used in threaded rigid conduit systems in hazardous areas:

- To function as a splice box, pull box, or equipment and device enclosure
- · Indoors and outdoors

Features:

- Ground joint (bolted) construction throughout permits use in hazardous areas
- Bodies have thick walls so they can be factory drilled and tapped to meet IEC requirements for Zone 1, 2, 21, and 22 hazardous areas
- Covers are provided with a neoprene "O" ring gasket to meet NEMA/EEMAC 4 requirements for a watertight seal
- Internal grounding lug provides a means to ground enclosed equipment
- Ambient temperature range: -20 to +55°C
- Rated voltage: 690V
- Rated max. current: up to 1200A

Certifications & Compliances:

ATEX Certificate: LOM 02ATEX3060U (Empty

- Enclosures)
 ♠ II 2G Ex d IIB
- EN60079-0:2006
- EN60079-7:2007
- EN60079-18:2004

ATEX Certificate: LOM 03ATEX2004X (Custom Control Panels)

- 🗓 II 2 G Ex d IIB T4...T6
- 🗓 II 2(1) G Ex d[ia] IIB T4...T6
- 🔊 II 2(2) G Ex d[ib] IIB T4...T6
- 🗓 II 2(1/2) G Ex d[ia/ib] IIB T4...T6
- EN60079-0:2006
- EN60079-1:2007
- EN60079-11:2007

Metallic Enclosures*

Marking to 94/9/CE

• 🕟 II 2 G - EEx d IIB T6 - T4 - T6*

EC - Type Examination Certificate

LOM 02 ATEX 3060U

Degree of Protection

• IP65 acc. EN60529

Rated Voltage

• 690V

Max. Rated Current

• 1200A

Terminals

• to 240mm²

Material

 Light alloy, less EJW family in welded steel; grey coating

*Acc. of the mounted elements.



Components

Marking to 94/9/CE

EC - Type Examination Certificate

LOM 02 ATEX 3060U

Degree of Protection

IP65 acc. EN60529

Standard Materials:

- Bodies aluminum
- Covers aluminum
- EJW Series welded steel

Standard Finish:

Epoxy powder coat finish is standard inside and outside

Options:

Description

 Factory installed mounting plate for relays, terminal blocks, electrical devices, etc.

 Factory installed pushbuttons, signal lamps, switchgear, rotary handles, actuators, rectangular glass windows

 Factory installed terminal blocks up to 240 sq mm

Suffix

Available upon request (please contact factory)

Available upon request (please contact factory)

Available upon request (please contact factory)

Ordering Information - Enclosures:

	Di	issipation P	ower	Rated Current	up to 240 sq mm		ated Current up to 240 sq mm		contact factory)
Туре	Т6	T5	T4	Max.	Cat. #	Kg	Quantity		
EJB 12R	30	60	100W	40A	NOR 000 001 170 438	3.00	1		
EJB 12A	30	60	100W	40A	NOR 000 001 170 446	3.60	1		
EJB 14R	80	140	240W	65A	NOR 000 001 170 462	8.30	1		
EJB 23R	60	140	240W	100A	NOR 000 001 170 488	11.00	1		
EJB 110	125	170	295W	160A	NOR 000 001 170 496	22.00	1		
EJB 120	150	270	480W	300A	NOR 000 001 170 503	28.50	1		
EJB 120 M3	150	270	480W	300A	NOR 000 111 170 601	28.50	1		
EJB 120 M4	150	270	480W	300A	NOR 000 111 170 606	28.50	1		
EJB 121	150	280	500W	350A	NOR 000 001 170 511	32.00	1		
EJB 130	200	340	590W	450A	NOR 000 001 170 529	35.30	1		
EJB 131	200	350	610W	500A	NOR 000 001 170 537	39.00	1		
EJB 240	250	400	700W	800A	NOR 000 001 170 545	52.30	1		
EJB 241	250	400	700W	850A	NOR 000 001 170 553	56.80	1		
EJB 241 M1	250	400	700W	850A	NOR 000 111 170 469	54.00	1		
EJB 241 M2	250	400	700W	850A	NOR 000 111 170 451	51.00	1		
EJW 250	250	340	560W	1200A	NOR 000 001 190 139	145.00	1		
EJW 251	380	520	850W	1200A	NOR 000 001 190 197	167.00	1		
EJW 350	380	520	850W	1200A	NOR 000 001 190 171	168.00	1		
EJW 351	450	600	1000W	1200A	NOR 000 111 190 062	175.00	1		
EJW 561	600	730	1000W	1200A	NOR 000 111 190 066	380.00	1		

Ordering	Information -	Components:
	Description	

	Description	Cat. #	Quantity
	Pushbuttons with 1NO + 1NC contact block:		
	Sensitive pushbutton + labels «White», «I», «O», «STOP», «START»	NOR 000 001 170 004	1
	Sensitive pushbutton locked by padlock in pressed position + labels «White», «I», «0», «STOP», «START»	NOR 000 001 170 005	1
	Sensitive pushbutton locked by padlock in depressed position + labels «White», «I», «0», «STOP», «START»	NOR 000 001 170 006	1
	Mushroom sensitive pushbutton + labels «0», «STOP», «OFF», «RED», and «YELLOW»	NOR 000 001 170 007	1
	Mushroom retained pushbutton + labels «0», «STOP», «OFF», «RED», and «YELLOW»	NOR 000 001 170 008	1
Term.	Mushroom retained pushbutton and locked by padlock + labels «0», «STOP», «OFF», «RED», and «YELLOW»	NOR 000 001 170 009	1
The same of the sa	Key pushbutton	NOR 000 001 170 010	1
THE PERSON NAMED IN	Mushroom key pushbutton	NOR 000 001 170 011	1
-90	Sensitive pushbutton bottom box + label «RESET»	NOR 000 001 170 012	1
	Contact blocks:	NOD 000 001 170 010	4
	1NO	NOR 000 001 170 013	1
	1NC	NOR 000 001 170 014	1
	Pack labels:		
	1 label of each inscription «II», «Arrow», «ON», «RESET», «TEST», «Green», «Red», «Yellow», and «Black»	NOR 000 001 170 015	1
	Signal lamps:		
	Direct lamp 240V + lens «White», «Amber», «Red», «Yellow», and «Green» + Lampholder + 3W lamp	NOR 000 001 170 016	1
	Direct lamp 130V + lens «White», «Amber», «Red», «Yellow», and «Green» + Lampholder + 2.6W lamp	NOR 000 001 170 017	1
Sec. 1	Direct lamp 24V + lens «White», «Amber», «Red», «Yellow», and «Green» + Lampholder + 1.2W lamp	NOR 000 001 170 018	1
	Indirect lamp by Trafo 380-400/6V + lens «White», «Amber», «Red», «Yellow», and «Green» + Lampholder + 1.2W lamp	NOR 000 001 170 019	1
	Direct LED 230V + Iens «White», «Amber», «Red», «Yellow», and «Green» + Lampholder	NOR 000 001 170 116	1
	Direct LED 130V + Iens «White», «Amber», «Red», «Yellow», and «Green» + Lampholder	NOR 000 001 170 117	1
	Direct LED 24V + lens «White», «Amber», «Red», «Yellow», and «Green» + Lampholder	NOR 000 001 170 118	1
	Control switches, locked by padlock + label:		
	Reversed «0-1», 2P, 12A + rotary handle	NOR 000 001 170 020	1
	Reversed «0-1», 2P, 25A + rotary handle	NOR 000 001 170 021	1
	Reversed «0-1», 3P, 25A + rotary handle	NOR 000 001 170 022	1
	Reversed «1-2», 1P, 12A + rotary handle	NOR 000 001 170 023	1
	Reversed «1-2», 2P, 12A + rotary handle	NOR 000 001 170 024	1
	Reversed «1-0-2», 1P, 12A + rotary handle	NOR 000 001 170 025	1

Ex d IIB T4-T6, Ex ia for Zone 1, 2, 21, 22

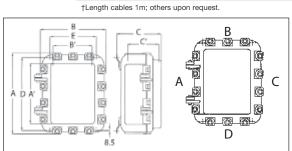
NEMA 4 / IP65

IECEx

EJB/EJW Enclosures For IEC Applications

ATEX GOST-R GOST-K

Description	Cat. #		Quantity
Control switches, locked by padlock + label:			
Reversed «1-0-2», 2P, 12A + rotary handle	NOR 000 001 17	70 026	1
Reversed «0-1», 2P, 12A + rotary handle	NOR 000 001 17	70 027	1
Reversed «0-1-M», 2P, 12A + rotary handle	NOR 000 001 17	70 028	1
Rotary handle bottom enclosure locked by padlock:			
Actuator for 25A <63A switch	NOR 000 001 17	70 029	1
Actuator for 63A <100A switch	NOR 000 001 17	70 030	1
Actuator for 100A <250A switch	NOR 000 001 17	70 031	1
Actuator for 250A <1000A switch	NOR 000 001 17	70 032	1
Neutral label for switches:			
Label 60 x 60	NOR 000 001 17	70 033	1
Label 70 x 70	NOR 000 001 17	70 034	1
Label 85 x 85	NOR 000 001 17	70 035	1
Special actuators:			
Actuator for MCB of 1P - ABB + label	NOR 000 001 17	70 933	1
Actuator for MCB multi-pole - ABB + label	NOR 000 001 17	70 925	1
Actuator for MCB of 1P - M&G + label	NOR 000 111 17	70 600	1
Actuator for MCB multi-pole - M&G + label	NOR 000 111 17	70 569	1
Actuator for MCB POWER + label	NOR 000 111 17	70 565	1
Bushings†:			
³ / ₄ " NPT 3P + N + PE 4x10mm ² + 1x6mm ² 50A	NOR 000 001 17	70 892	1
1" NPT 3P + N + PE 4x16mm ² + 1x10mm ² 75A	NOR 000 001 17	70 909	1
1½" NPT 3P + N + PE x50mm² + 1x10mm² 150A	NOR 000 001 17	70 917	1
Bus-bars:			
>350A, 3P + N + T + control 19x1.5mm ² application size 1	NOR 000 001 17	70 036	1
>350A <500A, 3P + N + T + control 19x1.5mm ² application size 1	NOR 000 001 17	70 037	1
>500A <630A, 3P (2 bars per phase) + N + T + control 19x1.5mm² application size 2	NOR 000 001 17	70 038	1
>630A <800A, 3P (2 bars per phase) + N + T + control 19x1.5mm² application size 2	NOR 000 001 17	70 039	1
Windows:			
60 x 60mm type: M 6060	NOR 000 001 17	70 000	1
75 x 75mm type: M 7575	NOR 000 001 17	70 001	1
110 x 50mm type: M 11050	NOR 000 001 17	70 002	1
110 x 75mm type: M 11075	NOR 000 001 17		



End bars cover:

Dimensions In Millimeters:

Туре	Exter	nals		Windows	Interr	nals		Moun	ting
	Α	В	С		A'	В'	C,	D	E
EJB 12R	216	130	106		178	86	59	220	144
EJB 12A	216	130	162		178	86	115	220	144
EJB 14R	420	150	143		367	104	95	424	159
EJB 23R	337	217	211		274	164	166	333	219
EJB 110	371	371	233		311	311	179	327	327
EJB 120	474	371	233		414	311	177	430	327
EJB 120 M3	474	371	233	75 x 110	414	311	177	430	327
EJB 120 M4	474	371	233	180 x 140	414	311	177	430	327
EJB 121	474	371	305		414	311	249	430	327
EJB 130	577	371	233		517	311	177	533	327
EJB 131	577	371	305		517	311	249	533	327
EJB 240	680	474	233		619	414	175	636	430
EJB 241	680	474	305		619	414	247	636	430
EJB 241 M1	680	474	305	230 x 255	619	414	247	636	430
EJB 241 M2	680	474	305	465 x 255	619	414	247	636	430
EJW 250	890	474	280		816	351	200	852	387
EJW 251	890	457	512		816	351	370	852	387
EJW 350	890	572	396		816	466	254	852	502
EJW 351	8901	572	512		816	466	370	852	502
EJW 561	1280	806	512		1194	685	370	1236	727

NOR 000 111 170 154 1

Customized Electrical Equipment

EJB/EJW IEC ATEX Enclosures can be customized to meet individual requirements. Please contact Eaton's Crouse-Hinds Customer Service for more information.

Possible electrical components mounted inside EJ's:

• Bus-bars; terminals; low voltage transformers; air circuit breakers; automatic circuit breakers; control and operation circuits; electronic apparatus; heating elements; associated SI apparatus; batteries with volume <1/100 of the free enclosure volume; starters and ballast for discharge lamps; capacitors of 3 seconds discharge time; servomotors without ventilation

Marking to 94/9/CE

• 🕠 II 2 G - Ex d IIB T6 - T4 - T6

EC - Type Examination Certificate• LOM 03 ATEX 2004X

T (Ambient of Use)

• -20°C to +55°C

Rated Voltage

• 690V

Rated Current

• up to 1200A

Degree of Protection • IP65 acc. EN60529

Terminals

• Up to 240mm²





Applications:

EJBA enclosures are used:

- · As a terminal box or bus bar system
- · As junction boxes with terminals
- To enclose equipment and control devices, relays, contactors and/or instruments
- · To house custom-built panels

Features:

- External flange with machined joint cover opening provides maximum opening for pulling cables or mounting equipment
- · Body walls have sufficient thickness to allow for drilled and tapped entries
- Special one piece hollow neoprene gasket designed to fully compress to ensure metal to metal contact of cover and body for explosionproof integrity while giving an IP66 weatherproof seal to AS1939
- The sealing gasket is placed inward from the cover bolt holes, to prevent ingress of any moisture
- Hinges provide convenient and easy access for inspection, maintenance, and systems changes; integral cast hinges are fitted as standard on EJBA464, EJBA783, and EJBA786; aluminum hinges are also provided as standard on EJBA211710 up to EJBA361810; optional stainless steel hinges are available for sizes EJBA886 up to EJBA161608
- Entries can be drilled and tapped to customer requirements

Certifications and Compliances:

Type of Protection

Exd

Degree of Protection

IP66

Gas Group

• IIB or IIB + H2

Approvals

ANZEx 06.3018X

Standard Materials:

• Body and cover - cast copper-free aluminum

Standard Finish:

• EJBA2424, 2418, 211710 cover corrosion resistant grey polyurethane; remainder natural

Options:

- · Grey polyurethane finish
- · Captive cover screws
- · Marine grade paint



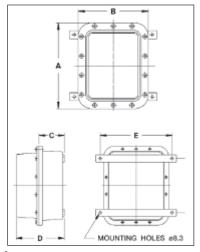
Ordering Information:

Nominal inside dimensions (mm):

		~ \			
Cat. #	Width	Height	Depth	Gas Group	Mounting Plate
EJBA464	150	100	100	IIB	MP0406
EJBA783	200	170	70	IIB or IIC (H2)	MP0708
EJBA786	200	170	140	IIB or IIC (H2)	MP0708
EJBA886	200	200	150	IIB or IIC (H2)	MP0808
EJBA1286	200	300	150	IIB or IIC (H2)	MP1208
EJBA9166	228	400	150	IIB or IIC (H2)	MP0916
EJBA121208	300	300	200	IIB or IIC (H2)	MP1212
EJBA161608	400	400	200	IIB or IIC (H2)	MP1616
EJBA211710	440	545	255	IIB or IIC (H2)	MP2117
EJBA241810	450	600	255	IIB or IIC (H2)	MP2418
EJBA242410	600	600	255	IIB or IIC (H2)	MP2424

Note: All drilling and tapping of entries must be carried out by the manufacturer to ensure that certification requirements are not breached. While mounting of devices such as relays, etc. can be carried out in the future if the enclosure is provided with a mounting plate, care should be taken with devices which are likely to raise the surface temperature of the enclosure.

Dimensions In Millimeters:



Dimensional Data:

	nui D	ata.						
Cat. #	Α	В	С	D	E	F	Mtg. Screws	
EJBA464	215	165	122	135	145	150	M6	
EJBA783	280	240	87	115	230	192	M8	
EJBA786	280	240	87	170	230	192	M8	
EJBA886	280	280	180	230	140	280	M8	
EJBA1286	280	380	175	225	168	305	M12	
EJBA9166	305	485	175	225	242	325	M12	
EJBA121208	415	415	230	285	143	395	M6	
EJBA161608	516	516	230	285	242	505	M8	
EJBA211710	654	545	323	355	300	610	M8	
EJBA241810	595	750	295	350	413	556	M8	
E.IBA242410	750	750	295	350	413	708	M12	

GHG64 Series Flameproof Enclosures

Applications:

GHG64 Series Enclosures are used in threaded rigid conduit systems in hazardous areas:

- To function as a splice box, pull box, or equipment and device enclosure
- · Indoors and outdoors

Features:

- 11 sizes (modular design) to suit your requirements with very effective power dissipation
- Ground joint (bolted) construction throughout permits use in hazardous areas
- Bodies have thick walls so they can be factory drilled and tapped to meet IEC requirements for Zone 1, 2, 21, and 22 hazardous areas
- Hinged cover with up to 110° cover opening designed for easy maintenance
- Ambient temperature range: -20 to +40°C standard (-55 to +55°C optional)
- Rated voltage: 690V
- Rated max. current: up to 1150A

Certifications & Compliances:

- Ex d IIB (IIB + H₂ optional) T5-T6, Ex ia for Zone 1, 2, 21, 22
- ATEX Certificate: PTB 08 ATEX 1042U
- GOST-R
- GOST-K



ATEX

GOST-R

GOST-K

Standard Materials:

- Bodies die cast aluminum
- · Covers die cast aluminum

Standard Finish:

 Epoxy powder coat finish is standard inside and outside (cover is RAL7032 gray and body RAL7022 beige)

Options:

Description

- Factory installed mounting plate for relays, terminal blocks, electrical devices, etc.
- Factory installed pushbuttons, signal lamps, switchgear, rotary handles, actuators, rectangular glass windows
- Factory installed terminal blocks - up to 240 sq mm
- IIB + H₂
- IP66

Suffix

Available upon request (please contact factory)

Available upon request (please contact factory)

Available upon request (please contact factory)

Please contact factory
Please contact factory











Size 11 Size 9 Size 6 Size 4 Size 1

Ordering Information - Ex d Light Alloy Empty Enclosures (IIB), Bolted:

	Power Dissipation	(Tamb. = 40°C)	_	Dimensions	_	
Version	Т6	T5	Weight	LxWxD	Cat. # (without hinge)	Cat. # (with hinge)
Size 1	94 W	134 W	10.5 kg	210 x 210 x 191 mm	GHG 640 1901 R0001	GHG 640 1901 R0013
Size 2	112 W	158 W	14.0 kg	320 x 210 x 191 mm	GHG 640 1902 R0001	GHG 640 1902 R0013
Size 3	140 W	195 W	17.0 kg	320 x 210 x 284 mm	GHG 640 1903 R0001	GHG 640 1903 R0013
Size 4	152 W	214 W	18.0 kg	320 x 320 x 191 mm	GHG 640 1904 R0001	GHG 640 1904 R0013
Size 5	197 W	280 W	21.0 kg	320 x 320 x 284 mm	GHG 640 1905 R0001	GHG 640 1905 R0013
Size 6	240 W	335 W	22.0 kg	430 x 320 x 191 mm	GHG 640 1906 R0001	GHG 640 1906 R0013
Size 7	270 W	390 W	27.0 kg	430 x 320 x 284 mm	GHG 640 1907 R0001	GHG 640 1907 R0013
Size 8	270 W	390 W	35.0 kg	430 x 430 x 284 mm	GHG 640 1908 R0001	GHG 640 1908 R0013
Size 9	390 W	430 W	53.0 kg	650 x 430 x 284 mm	GHG 640 1909 R0001	GHG 640 1909 R0013
Size 10	470 W	640 W	73.0 kg	650 x 430 x 437 mm	GHG 640 1910 R0001	GHG 640 1910 R0013
Size 11	470 W	640 W	105.0 kg	650 x 650 x 442 mm	GHG 640 1911 R0001	GHG 640 1911 R0013

GUA Junction Boxes with Union Hubs

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III Explosionproof Dust-Ignitionproof

Applications:

GUA junction boxes with union hubs are used in threaded rigid conduit systems in hazardous areas:

- To allow easy disassembly of conduit system
- To function as junction and pull box for multiple conductors and conduits
- Indoors or outdoors where space is limited, such as in gasoline pumps

Features:

- Supplied with union hubs, which makes it a compact assembly
- Have a variety of hub arrangements
- · Covers are threaded
- Mounting straps are standard on all boxes

Certifications and Compliances:

NEC/CEC

Class I, Division 1 and 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- CSA standard: C22.2 No. 30

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural

Options:

DescriptionSuffixFeraloy iron alloy coverWOD

Size Ranges:

• 1/2" to 1" hubs

Ordering Information With Nuts and Sleeves*







Hub a	Sizes b	С	d	е
1/2 3/4 1/2 3/4 3/4 3/4	1/2	1/2		
3/4	3/4	3/4		
1/2	3/4	3/4		
3/4	1/2	1/2		
3/4	1	1		
3/4	1	3/4		
1	3/4	3/4		
1	3/4	1		
1	1	1		
3/ ₄ 3/ ₄	3/4	3/4	3/4	
3/4	3/4	3/4	3/4	3/4

Cat. # With Nuts and Sleeves*	Dimensions x	у		
GUAG6665 GUAG7775 GUAG6775 GUAG7665	11/8	21/4		
GUAG7885 GUAG7875 GUAG8775 GUAG8785 GUAG8885	1 3/ ₁₆	23/8		
GUAH77775 GUAP777775	See GUAH above See GUAP above			

Outside dimensions of body: length, 3%"; depth, 1%" at corners, 3%" over corners; nominal diameter of cover opening, 3"; width, 3%".

For conduit liner ordering information, see page 860.

^{*}Photo shown without standard mounting strap(s).

Cl. I, Div. 1 and 2, Groups C, D Cl. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G Cl. III

Explosionproof **Dust-Ignitionproof** Raintight

Applications:

GUP series junction boxes are used in threaded rigid conduit systems in hazardous areas:

- To function as a junction or pull box
- Where space is limited such as in gasoline pumps
- Indoors or outdoors

Features:

- Compact in design
- Supplied with a variety of hubs (6 hubs and 3 plugs or 10 hubs and 7 plugs)
- Cover sealed with standard "O" ring gasket for raintight enclosure

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 and 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural

Options:

Description	Suffix
Feraloy iron alloy covers	WOD

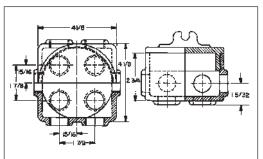


Ordering Information:

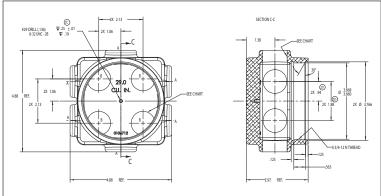
Top Hubs	Bottom Hubs	Side Hubs	Back Hubs	Cat. #
2-3/4"	2-3/4"	1-3/4"	None	GUP215*
2-3/4"	2-3/4"	1-3/4"	4-3/4"	GUP214†
2-3/4"	2-3/4"	1-3/4"	4-1"	GUP314‡
2-1"	2-1"	1-1"	4-1"	GUP315‡‡

*Furnished with 3–3/4" pipe plugs. †Furnished with 7–3/4" pipe plugs. ‡Furnished with 4–3/4" pipe plugs and 3–1" pipe plugs. ‡‡Furnished with 4–1" pipe plugs and 3–1" pipe plugs.

Dimensions In Inches:



For conduit liner ordering information, see page 860.



GUP315 Only

Applications:

• The EGJ series junction boxes are designed for flush installation in the concrete pump island of gasoline service stations

Features:

- · Cover sealed with "O" ring gasket to make unit raintight
- · Cover recess will accept tool used to open cover of gasoline storage tank
- · Two drilled and tapped conduit entrances on the bottom and six on the
- Plugs are provided for the two bottom entrances and four of the side entrances for choice of conduit arrangement
- ES sealing hubs thread into the bottom to seal the mainfeed
- · Caulking compound supplied for filling space between cover flange and body rim to prevent accumulation of water, dirt and ice. Compound remains pliable and is easily removed

Unused conduit entrances must be securely plugged with type PLG threaded pipe plugs to maintain flametight conditions (see section 5F). See illustration for method of constructing seals.

Certifications and **Compliances:**

NEC/CEC

Class I, Division 1 and 2, Group D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural



EGJ421



EGJ422

Ordering Information

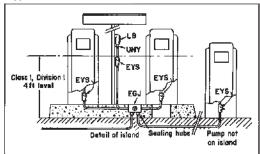
Body Size		Drilled and Tapped Conduit Entrances					Replacement Cover	
Length and Width	Depth	No. of Hubs Side	Size	No. of Hubs Back	Size	Cat. #	Cat. #	
53/4	43/16	6	3/4	2	3/4	EGJ421	EGJ:10706L	
7	5 ⁹ / ₃₂	6	3/4	2	1	EGJ422	EGJ:10705L	

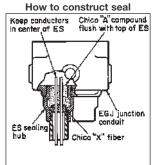
Sealing Hubs (order separately)

For	No.	Female Hub Size	Cat. #
EGJ421	2	1	ES53
EGJ422	2	11/4	ES64



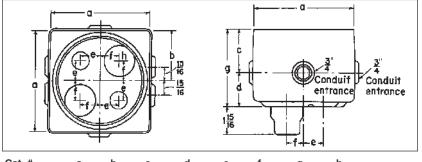
Typical Installation





Dimensions

In Inches:



Cat. #	а	D	С	a	е	T	g	n
EGJ421 EGJ422	5³/₄ 7		2 ⁷ / ₁₆ 3			1 ⁵ / ₁₆ 1 ³ / ₈		11/2" entry 2" entry

For conduit liner ordering information, see page 860.

Both the EGJ421 and EGJ422 junction boxes have 4 drilled and tapped conduit entrances in the back (see drawing above). The 2 larger diameter holes are for the ES Sealing Hubs and there are provisions for 2 smaller diameter conduit entrances.

EIH Instrument Enclosures

Cl. I, Div. 1 & 2, Groups B+, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 4, 4X, 7B+CD, 9EFG

Ex d IIB, IP66 ATEX Certified

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Applications:

EIH instrument enclosures are used:

- To enclose instrumentation and control devices such as two-wire transmitters, flow measurement devices, temperature controls, level detectors, pressure switches, etc.
- As an outlet box for pulling and splicing conductors
- In hazardous, abusive and wet locations
- To provide access to conductors for maintenance and future system changes

Features:

- $\bullet~^{\mbox{\tiny 3/4}"}$ offset through feed hubs offer maximum interior space and greater working area
- 2" and 4" deep covers, solid or with glass lens
- · Internal mounting pads for instrument mounting
- Internal ground screw for safe, continuous grounding
- · Neoprene gasket provides a watertight seal for NEMA/EEMAC 4 and UL/CSA Type 4 applications
- · Wrenching lugs permit easy cover removal and tightening
- Internal cover threads provide additional space inside body
- External boss is suitable for drilling and tapping an additional conduit entry

Certifications and **Compliances:**

NEC/CEC:

Class I, Division 1 & 2, Groups B†, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 4X, 7BCD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- FM Classification No.: 3615
- ATEX Certificate KEMA 02 ATEX 2265U (requires ATEX suffix)
- IEC Standards EN:60079-0, EN:60079-1, FN:60529

Standard Materials:

- Body and cover copper-free aluminum
- Glass lens heat tempered glass
- Gasket neoprene

Standard Finishes:

Corro-free™ epoxy powder coat (gray)

Options:

Description	Suffix
Cast mounting feet	.MF
Natural finish - Consult Eaton's	
Crouse-Hinds	
Additional drilled and tapped opening]
in external boss:	
1/2"	. 1
3/4"	. 2
With ATEX certification	ATEX



EIH22



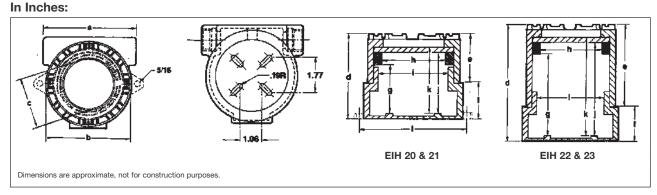
EIH21

Ordering Information:

Hub Size*	Description	Cat. #
3/4	Body with 2" standard cover	EIH20
3/4	Body with 2" glass lens cover	EIH21
3/4	Body with 4" dome cover	EIH22
3/4	Body with 4" glass lens dome cover	EIH23

*For 1/2" hub size, use RE21-SA

Dimensions



Cat. #	а	b	С	d	е	f	g	h	i	j	k	I
EIH20	5.00	4.25	_	4.54	2.60	1.94	_	_	3.62	_	3.34	5.25
EIH21	5.00	4.25	2.60	4.54	2.60	1.94	2.75	2.61	3.62	3.10	_	5.25
EIH22	5.00	4.25	_	6.54	4.60	1.94	_	_	3.62	_	5.34	5.25
EIH23	5.00	4.25	2.60	6.54	4.60	1.94	4.68	2.61	3.62	5.03	_	5.25

† For Group B applications, seal within 11/2" of enclosure in accordance with Sections 501-5 of the National Electrical Code® as well as any other applicable codes.

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F. G CI. III

NEMA 3, 4, 7B†CD, 9EFG

Cl. I, Div. 1 & 2, Groups B+, C, D Explosionproof **Dust-Ignitionproof** Raintight Wet Locations Watertight

Applications:

EIHT instrument enclosures are used:

- To enclose instrumentation and control devices such as two-wire transmitters. flow measurement devices, temperature controls, level detectors, pressure switches, etc.
- · As an outlet box for pulling and splicing conductors
- In hazardous, abusive and wet locations
- To provide access to conductors for maintenance and future system changes

Features:

- 3/4" offset through feed hubs offer maximum interior space and greater working area
- 2" and 4" deep covers, solid or with glass lens
- · Internal mounting pads for instrument mounting
- · Internal ground screw for safe, continuous grounding
- · Neoprene gasket provides a watertight seal for NEMA/EEMAC 4 and UL/CSA Type 4 applications
- Wrenching lugs permit easy cover removal and tightening
- Internal cover threads provide additional space inside body
- External boss is suitable for drilling and tapping an additional conduit entry
- Two separate chambers for isolation of power supply and instrument
- 3/4" hub on instrument side
- · Third party certified for drilling enclosure wall between instrument and power side

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups B†, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- NEMA/EEMAC: 3, 4, 7B†CD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- FM Classification No.: 3615
- IEC Standards EN:60079-0, EN:60079-1, FN:60529

Standard Materials:

- Body and cover copper-free aluminum
- Glass lens heat tempered glass
- Gasket neoprene

Standard Finishes:

Corro-free[™] epoxy powder coat (gray)

Options:

Description Suffix Additional drilled and tapped opening in external boss:

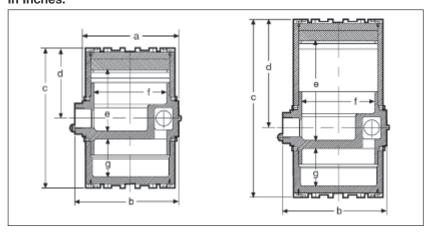
1/2 " 3/₄ " Natural finish..... Consult Eaton's Crouse-Hinds



Ordering Information:

Hub Size*	Description	Cat. #
3/4	2" Blank Cover - Power Side 2" Blank Cover - Instrument Side	EIHT200
3/4	2" Blank Cover - Power Side 2" Glass Lens Cover - Instrument Side	EIHT210
3/4	2" Blank Cover - Power Side 4" Blank Cover - Instrument Side	EIHT220
3/4	2" Blank Cover - Power Side 4" Glass Lens Cover - Instrument Side	EIHT230

Dimensions In Inches:



Cat. #	а	b	С	d	е	f	g
EIHT200	4.75	5.19	6.95	3.48	3.15	3.56	1.87
EIHT210	4.75	5.19	6.95	3.48	3.15	3.56	1.87
EIHT220	_	5.19	8.95	5.48	5.15	3.56	1.87
EIHT230	_	5.19	8.95	5.48	5.15	3.56	1.87

† For Group B applications, seal within 1½ of enclosure in accordance with Sections 501-5 of the National Electrical Code® as well as any other applicable codes. *For 1/2" hub size, use RE21-SA.

GUB Instrument Housings

Cl. I, Div. 1 & 2, Group D Cl. II, Div. 1, Groups E, F, G Cl. II. Div. 2. Groups F. G. Class III NEMA 3, 7D, 9EFG, 12 Ex d IIC. ATEX Certified

Explosionproof Dust-Ignitionproof Raintight/Wet Locations Watertight

Applications:

GUB instrument housings are used:

- To enclose ammeters, voltmeters, wattmeters, varmeters, power-factor meters, tachometer indicators, pressure controls, temperature control etc., in a threaded rigid metallic conduit system
- In specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, certain hazardous metal finishing areas, coal processing locations, granaries and grain processing plants



- · Threaded covers have glass windows for viewing scale, dial or setting of enclosed instrument.
- · Mounting plates, brackets or pillars for mounting a wide variety of instruments not shown on the next page are available on special order. Instrument to be used must be specified by make, complete identification data and dimensions.



• NEC/CEC:

Class I, Division 1 & 2, Group D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• NEMA/EEMAC: 3, 7D, 9EFG, 12

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

• IEC Standards: EN60079-0. EN60079-1

• Ex II 2 G Ex d IIC Gb • PTB 01 ATEX 1019 U

Standard Materials:

- Body Feraloy® iron alloy
- Cover copper-free aluminum
- Window heat strengthened plate glass

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural

Options:

Description Suffix Other conduit opening sizes and arrangements can be furnished For 3/4" hub top and bottom 22

With ATEX Component Certification ATEX



GUB01 shown with GUB0110 glass cover GUB04 shown with GUB0109 glass cover



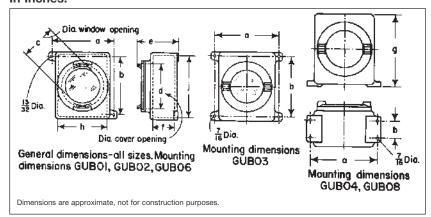


GUB03 shown with GUB0109 glass cover

Ordering Information - Empty Housing

	Condu	it Opening	
Basic Housing	Size	Position	Cat. #
GUB01	3/4	Top Bottom	GUB110 1 20 GUB110 1 02
GUB02	3/4	Top Bottom	GUB218 1 20 GUB218 1 02
GUB06	3/4	Top Bottom	GUB619 1 20 GUB619 1 02
GUB03	3/4	Top Bottom	GUB319 1 20 GUB319 1 02

Dimensions In Inches:



GUB	а	b	С	d	е	f	g	h	j
1	71/2	53/4	35/8	51/2	53/4	3		57/8	61/2
2	9	83/4	$4^{3}/_{4}$	7	6	3		71/8	91/8
3	121/8	10 ³ / ₄	613/16	95/8	85/16	5		93/4	10 ³ / ₄
4	121/8	31/2	613/16	95/8	813/16	5	121/4	93/4	10 ³ / ₄
6	91/2	83/4	43/4	7	7	4		75/8	91/8
8	95/8	21/2	$4^{3}/_{4}$	7	615/16	4	101/4	75/8	91/8

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GUB Instrument Housings

Cl. I, Div. 1 & 2, Group D Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof Cl. II, Div. 2, Groups F, G Class III NEMA 3, 7D, 9EFG, 12

Explosionproof Raintight/Wet Locations Watertight

Ordering Information - Housing with Mounting Plate for Standard Meters				
Inst. Size	Basic Housing	Cat. #		
0:/	OURGA	GUB1103 1 20*		
31/2	GUB01	GUB11031 1 20		
		GUB6191 1 20		
4	GUB06	GUB6192 1 20		
		GUB6193 1 20		
41/2	GUB02	GUB2184 1 20*		
	CUROS	GUB3190 1 20*		
6	GUB03	GUB3191 1 20		

^{*}These boxes available for use in Class I, Division 1 and 2, Group B and C hazardous areas. Add suffix GB to Cat. No. Seals must be installed within 11/2* of each conduit opening for

Note: These standard instrument housings are furnished with one top feed 9/4 drilled and tapped opening.

Note: Meters are not included.

Ordering Information - Housing with Standard Meter Included†

Manufacturer	Model	Inst. Size in.	Type Flange	Cat. #	Max. Inst. Depth‡
G.E.	Type 250	31/2	Rect. Flush	GUB1103 1 20*	
Westinghouse	R-351 Series N-351 Series	3½ 3½	Rect. Flush Round Flush		
Weston	301 Series 301 Series 723	3½ 3½ 3½ 3½	Rect. Flush Round Flush Rect. Flush		
0.5	KT-11 Elapsed Time Meter Without Reset	31/2	Round Flush or Rect.Flush	GUB11031 1 20	
G.E.	236 Elapsed Time Meter Without Reset	31/2	Round Flush or Rect.Flush	GOBTIOST 1 20	
Westinghouse	BH351 Elapsed Time Meter Without Reset	31/2	Rect. Flush		
G.E.	Type 250	41/2	Rect. Flush	GUB2184 1 20*	
Westinghouse	R-371 Series N-371 Series	4 ¹ / ₂ 4 ¹ / ₂	Rect. Flush Round Flush		
Weston	1900 Series	41/2	Rect. Flush		
Westinghouse	KX-251 KA-251 KY-25	6 6 6	Rect. Rect. Rect.	GUB3190 1 20*	
Weston	271 273	7 9	Fan Fan	GUB3191 1 20	
G.E.	AB-14 Series DB-14 Series AB-18 Series DB-18 Series AB-30 Series DB-30 Series AB-40 Series DB-40 Series	4 4 4 4 4 4 4	Rect. Flush	GUB6191 1 20 GUB6192 1 20 GUB6193 1 20	4°/ ₁₆ 6¹/ ₁₆ 7¹¹/ ₁₈
Westinghouse	K-241 Series	41/2	Rect. Flush		

[†]Standard meters are to be purchased separately from manufacturers listed. ‡Select housing based on depth of instrument to be enclosed. *These boxes available for use in Class I, Division 1 and 2, Group B and C hazardous areas. Add suffix GB to Cat. No. Seals must be installed within 1½" of each conduit opening for Group B & C usages.

GUBA Flameproof Exd Instrument Housings

Applications:

GUBA instrument housings are used:

- To enclose ammeters, voltmeters, wattmeters, varmeters, power-factor meters, tachometer, or other indicating devices
- In specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants

Features:

- Threaded covers have glass windows for viewing scale, dial, or setting of enclosed instrument
- Mounting plates, brackets, or pillars for mounting a wide variety of instruments are available

Certifications & Compliances:

- Certificate of Compliance No. Ex262 to AS2480
- IP66 to AS1939

Standard Materials:

- Body copper-free aluminum
- Cover copper-free aluminum
- Window toughened

Standard Finish:

• Light grey corrosion resistant polyurethane

Options:

- Other conduit hub sizes and arrangements can be furnished
- Meter 90° quadrant or 250° long scale

Notes:

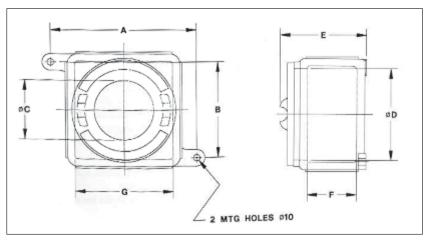
- 1) Accommodates any make of meter styles 96Q or 96L
- 2) Instrument to be used must be specified by make, complete identification data, and dimensions



Ordering Information:

Basic Housing	Entry Size	Position	Cat. #
GUBA01	25mm	Тор	GUBA 1103-1-20
GUBA01	25mm	Bottom	GUBA 1103-1-02

Dimensions In Millimeters:



A	В	С	D	E	F	G
195	145	93	140	135	77	145

EMH Instrument Housings

Cl. I, Div. 1 & 2, Group D Cl. II. Div. 1. Groups E. F. G. Cl. II, Div. 2, Groups F, G CI. III NEMA 3, 7D, 9EFG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Applications:

EMH instrument housings are used:

- To enclose 21/2" or 31/2" diameter round, flush rim-mounting meters, whose scale or dial would be visible in the 25%" diameter glass window. Typical types of instruments or meters are ammeters, voltmeters, etc.
- In specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, certain hazardous metal finishing areas, coal processing locations, granaries and grain processing plants

Features:

- · Sight-glass in cover permits viewing of instrument dial or setting.
- Enclosures are non-magnetic, available in surface mounting and flush panel mounting. The cylindrical extension of the cover opening on the flush bodies will project through a hole in panel. Thickness of panel must not exceed 1/4" to insure flametight assembly of cover threads with body threads.
- · Mounting plates and posts in bodies support the instrument close to the heavy glass window in cover. Maximum depth of instrument extending from outboard end of posts towards the back wall of enclosure body is 3". There is ample wiring space in back of instruments.
- Bodies have bosses on all four sides and back for drilling and tapping of conduit entrances.
- · Dead end and through feed arrangements for 3/4" rigid conduit are standard listings.

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Group D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

• NEMA/EEMAC: 3, 7D, 9EFG, 12

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies copper-free aluminum
- Covers copper-free aluminum
- Windows heat strengthened plate

Standard Finishes:

Natural

Style	Conduit Openings	Size	Cat. #
Surface	One in Side (Dead End) Two in Sides (Through Feed)	3/4	EMH521 20000 EMH533 20000 EMH521 20200 EMH533 20200
Flush	One in Side (Dead End) Two in Sides (Through Feed)	3/4	EMH511 20000 EMH534 20000 EMH511 20200 EMH534 20200

Standard Meters Housed in EMH511, EMH521†

Manufacturer	Model	Size
Weston	201 Series 301 Series	2½ 3½
Westinghouse	N-351 Series	31/2
	125 Series 135 Series 145 Series 155 Series	21/2
Simpson	25 Series 35 Series 45 Series 55 Series 75 Series	31/2
	3222 Series 3282 Series	21/2
	3223 Series 3283 Series	31/2



Instrument Housings

Style	Conduit Openings	Size	Cat. #
Surface	One in Side (Dead End) Two in Sides (Through Feed)	3/4	EMH521 20000 EMH533 20000 EMH521 20200 EMH533 20200
Flush	One in Side (Dead End) Two in Sides (Through Feed)	3/4	EMH511 20000 EMH534 20000 EMH511 20200 EMH534 20200



Flush



Surface

Options:

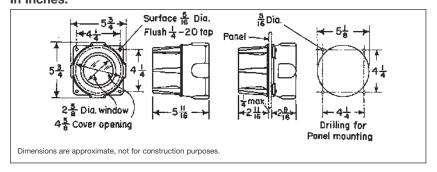
• Other conduit hub sizes and arrangements can be furnished.

Standard Meters

Housed in EMH533, EMH534

Manufacturer	Model	Size	Туре
G.E.	AW-91 Series DW-91 Series	21/2	Rect. Flush
Weston	201 Series 1721 Series	21/2	Square Flush Rect. Flush

Dimensions In Inches:



Metallic Enclosures 2E

Increased Safety Hazardous Applications or Non-hazardous Applications

Description	Page No.
Ex-CELL Series	see pages 762-768
NXT Series	see pages 771–773
STB Series	see pages 776–780
HVB Series	see pages 782–784
KBX Series	see page 785
TBX Series	see pages 786-788

High performance, high reliability enclosures for global applications

CI. I, Div. 2, Groups A,B,C,D† Type 3S, 4, 4X cULus to UL50 / C22.2 No. 94-M91 IP66
ATEX and IECEx Certified
GOST-R and GOST-K Certified

Applications:

Eaton's Crouse-Hinds Ex-CELL Enclosures are manufactured to meet the most demanding industrial and hazardous area environmental applications. The Ex-CELL Series is a globally certified enclosure and termination solution for Type 3S and 4X applications. They are certified to the impact, thermal, and IP66 ingress requirements of EN 60079-0.

- Ex-CELL Enclosures are available in a comprehensive range of sizes, each with various configurations for a multitude of applications.
- The Ex-CELL Series offers unique design features, precision manufacturing, and the highest quality materials, making it the premier choice for instrumentation and electrical applications across the globe.

The Ex-CELL product line has been expanded to include:

- Over 100 standard sizes in both stainless steel and painted steel
- Single door enclosures up to 63" x 48" x 16"
- XXL double door enclosures 5 sizes up to 72" X 72" X 24". The only XXL enclosure in the world with ATEX approval!
- Gangable enclosures up to 48" x 96" x 12"
- Flush mount enclosures
- · Eagle enclosures with a sloped, water-shedding design

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D†
- cULus to UL50 / C22.2 No. 94-M91, Types 3S, 4, 4X
- ATEX II 2 GD Ex e II T6 IP66 (PTB02ATEX1014) for Zone 1, 2 and 21
- IECEx Ex e (IECEx BKI 08.0001U)
- GOST-R and GOST-K Certified
- Ex e ia IIC, T6, T5

Materials and Finishes:

Enclosure Options:

- 316L (1.4404 to EN 10088) Stainless Steel (standard)
- 304 (1.4301 to EN 10088) Stainless Steel (optional)
- RAL 7032 Painted Steel

Enclosure Finish:

 Superior corrosion-resistant "chromium enriched" electro-polished surface**

Gasket:

• High-integrity "one piece" foam-in place polyurethane gasket

Keyed Lock Fastening Mechanism:

• Chromium-plated zinc metal die cast

Door Hardware:

· Stainless steel hinges on door

Enclosure Mounting:

• 4 x external 3mm stainless steel welded lugs, 11mm Ø holes / slots

Equipment Mounting:

 4 x stand-off pillars 9mm Ø, 25mm high, tapped M6 x 10, for rail / mounting plate

Enclosure Earth:

· M10 external and internal brass earth stud assembly

Mounting Plate:

• 2mm sheet steel with zintec finish (available in stainless steel)

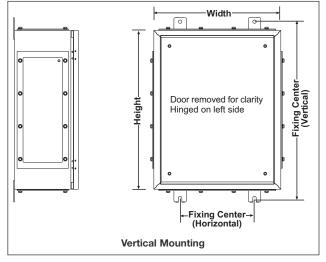
Technical Specifications:

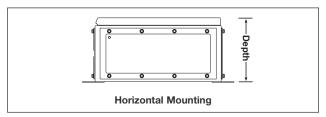
- Operating Temperature: -20°C to +60°C (see Options section for optional silicone gasket with -55°C to +55°C operating temperature)
- Impact Resistance: 7 J (Nm)



Mounting Information

See Ordering Information for measurements





†When terminal blocks or approved Class I, Division 2 devices are installed within the enclosure in accordance with NEC/CEC requirements. These enclosures are NOT explosionproof and will NOT contain an explosion. Installation of arcing and sparking devices which are not Class I, Division 2 rated or higher is NOT PERMITTED.

**Available on stainless steel enclosures only.

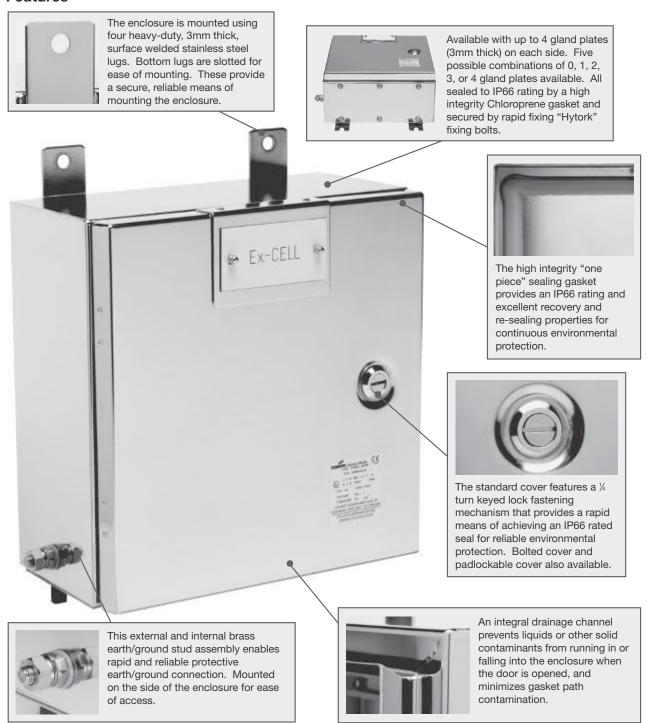


Ex-CELL Stainless Steel and Painted Steel Enclosures

High performance, high reliability enclosures for global applications

CI. I, Div. 2, Groups A,B,C,D† Type 3S, 4, 4X cULus to UL50 / C22.2 No. 94-M91 IP66
ATEX and IECEx Certified
GOST-R and GOST-K Certified

Features



†When terminal blocks or approved Class I, Division 2 devices are installed within the enclosure in accordance with NEC/CEC requirements. These enclosures are NOT explosion proof and will NOT contain an explosion. Installation of arcing and sparking devices which are not Class I, Division 2 rated or higher is NOT PERMITTED.

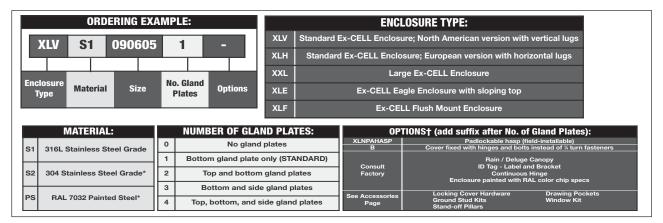
Cl. I, Div. 2, Groups A,B,C,D† cULus to UL50 / C22.2 No. 94-M91 ATEX and IECEx Certified GOST-R and GOST-K Certified

Type 3S, 4, 4X **IP66**

High performance, high reliability enclosures for global applications

Ordering Information:

Catalog numbers below are for stainless steel enclosures with 1 gland plate. Ex-CELL Enclosures are available in a variety of materials and configurations. To customize, utilize the following ordering boxes.



XLV Enclosures with Vertical Mounting Feet

Enclosure Size (In.) § (H x W x D)	Catalog Number	Fixing Center Vertical (In.)	Fixing Center Horizontal (In.)	Zinc Coated Steel Mounting Plate Catalog Number††
9 x 6 x 5	XLVS10906051	10.24	3.50	XLHZTMP2315
10 x 8 x 4	XLVS11008041	11.41	5.50	XLHZTMP2620
10 x 8 x 6	XLVS11008061	11.41	5.50	XLHZTMP2620
10 x 10 x 6	XLVS11010061	11.41	7.67	XLHZTMP2626
12 x 10 x 5	XLVS11210051	13.23	7.67	XLHZTMP3026
12 x 8 x 6	XLVS11208061	13.23	5.50	XLHZTMP3020
12 x 10 x 6	XLVS11210061	13.23	7.67	XLHZTMP3026
12 x 12 x 6	XLVS11212061	13.23	9.49	XLHZTMP3030
12 x 12 x 8	XLVS11212081	13.23	9.49	XLHZTMP3030
12 x 12 x 10	XLVS11212101	13.23	9.49	XLHZTMP3030
16 x 12 x 6	XLVS11612061	17.25	9.49	XLHZTMP4030
16 x 12 x 8	XLVS11612081	17.25	9.49	XLHZTMP4030
16 x 12 x 10	XLVS11612101	17.25	9.49	XLHZTMP4030
16 x 14 x 8	XLVS11614081	17.25	9.49	XLHZTMP4035
16 x 16 x 6	XLVS11616061	17.25	10.00	XLHZTMP4040
16 x 16 x 8	XLVS11616081	17.25	10.00	XLHZTMP4040
16 x 16 x 10	XLVS11616101	17.25	10.00	XLHZTMP4040
16 x 16 x 12	XLVS11616121	17.25	10.00	XLHZTMP4040
16 x 20 x 6	XLVS11620061	17.25	14.00	XLHZTMP4050
16 x 20 x 8	XLVS11620081	17.25	14.00	XLHZTMP4050
16 x 20 x 10	XLVS11620101	17.25	14.00	XLHZTMP4050
16 x 20 x 12	XLVS11620121	17.25	14.00	XLHZTMP4050
20 x 16 x 6	XLVS12016061	21.26	10.00	XLHZTMP5040
20 x 16 x 8	XLVS12016081	21.26	10.00	XLHZTMP5040
20 x 16 x 10	XLVS12016101	21.26	10.00	XLHZTMP5040
20 x 16 x 12	XLVS12016121	21.26	10.00	XLHZTMP5040
20 x 20 x 6	XLVS12020061	21.26	14.00	XLHZTMP5050
20 x 20 x 8	XLVS12020081	21.26	14.00	XLHZTMP5050
20 x 20 x 10	XLVS12020101	21.26	14.00	XLHZTMP5050
20 x 20 x 12	XLVS12020121	21.26	14.00	XLHZTMP5050
20 x 24 x 8	XLVS12024081	21.26	18.00	XLHZTMP5060
20 x 24 x 10	XLVS12024101	21.26	18.00	XLHZTMP5060
20 x 24 x 12	XLVS12024121	21.26	18.00	XLHZTMP5060
24 x 16 x 6	XLVS12416061	25.24	10.00	XLHZTMP6040
24 x 16 x 8	XLVS12416081	25.24	10.00	XLHZTMP6040
24 x 16 x 10	XLVS12416101	25.24	10.00	XLHZTMP6040
24 x 16 x 12	XLVS12416121	25.24	10.00	XLHZTMP6040
24 x 20 x 6	XLVS12420061	25.24	14.00	XLHZTMP6050
24 x 20 x 8	XLVS12420081	25.24	14.00	XLHZTMP6050
24 x 20 x 10	XLVS12420101	25.24	14.00	XLHZTMP6050
24 x 20 x 12	XLVS12420121	25.24	14.00	XLHZTMP6050

*For a 304 stainless steel enclosure, change S1 to S2 in catalog number (i.e. XLVS10906051 becomes XLVS20906051).

For a RAL 7032 painted steel enclosure, change S1 to PS in catalog number (i.e. XLVS10906051 becomes XLVPS0906051). Consult factory for other RAL colors § Enclosure sizes are H × W × D. 20 inch deep enclosures available - consult factory.

†See Options and Accessories pages for more information.

††Fits enclosures with both vertical or horizontal mounting feet. For stainless steel or painted steel mounting plates, consult factory.

Ex-CELL Stainless Steel and Painted Steel Enclosures

Cl. I, Div. 2, Groups A,B,C,D† Type 3S, 4, 4X cULus to UL50 / C22.2 No. 94-M91 IP66 ATEX and IECEx Certified GOST-R and GOST-K Certified

High performance, high reliability enclosures for global applications

Enclosure Size (In.) §	Catalog Number	Fixing Center	Fixing Center	Zinc Coated Steel
(H x W x D)		Vertical (In.)	Horizontal (In.)	Mounting Plate Catalog Number††
24 x 24 x 6	XLVS12424061	25.24	18.00	XLHZTMP6060
24 x 24 x 8 24 x 24 x 10	XLVS12424081 XLVS12424101	25.24 25.24	18.00 18.00	XLHZTMP6060 XLHZTMP6060
24 x 24 x 10 24 x 24 x 12	XLVS12424101 XLVS12424121	25.24	18.00	XLHZTMP6060 XLHZTMP6060
24 x 24 x 16	XLVS12424161	25.24	18.00	XLHZTMP6060
24 x 30 x 8	XLVS12430081	25.24	24.00	XLHZTMP6076
24 x 30 x 10	XLVS12430101	25.24	24.00	XLHZTMP6076
24 x 30 x 12	XLVS12430121	25.24	24.00	XLHZTMP6076
24 x 30 x 16	XLVS12430161	25.24	24.00	XLHZTMP6076
30 x 20 x 8	XLVS13020081	31.26	14.00	XLHZTMP7650
30 x 20 x 10	XLVS13020101	31.26	14.00	XLHZTMP7650
30 x 20 x 12	XLVS13020121 XLVS13024081	31.26 31.26	14.00	XLHZTMP7650
30 x 24 x 8 30 x 24 x 10	XLVS13024001 XLVS13024101	31.26	18.00 18.00	XLHZTMP7660 XLHZTMP7660
30 x 24 x 10	XLVS13024101 XLVS13024121	31.26	18.00	XLHZTMF7660
30 x 24 x 16	XLVS13024161	31.26	18.00	XLHZTMP7660
30 x 30 x 8	XLVS13030081	31.26	24.00	XLHZTMP7676
30 x 30 x 10	XLVS13030101	31.26	24.00	XLHZTMP7676
30 x 30 x 12	XLVS13030121	31.26	24.00	XLHZTMP7676
30 x 30 x 16	XLVS13030161	31.26	24.00	XLHZTMP7676
32 x 24 x 8	XLVS13224081	33.11	18.00	XLHZTMP8060
32 x 24 x 10	XLVS13224101	33.11	18.00	XLHZTMP8060
32 x 24 x 12	XLVS13224121	33.11	18.00	XLHZTMP8060
32 x 24 x 16 32 x 32 x 8	XLVS13224161 XLVS13232081	33.11 33.11	18.00 27.56	XLHZTMP8060 XLHZTMP8080
32 x 32 x 10	XLVS13232101	33.11	27.56	XLHZTMP8080
32 x 32 x 12	XLVS13232121	33.11	27.55	XLHZTMP8080
32 x 32 x 16	XLVS13232161	33.11	27.56	XLHZTMP8080
36 x 24 x 8	XLVS13624081	37.25	18.00	XLHZTMP9060
36 x 24 x 10	XLVS13624101	37.25	18.00	XLHZTMP9060
36 x 24 x 12	XLVS13624121	37.25	18.00	XLHZTMP9060
36 x 24 x 16	XLVS13624161	37.25	18.00	XLHZTMP9060
36 x 30 x 8	XLVS13630081	37.25	24.00	XLHZTMP9076
36 x 30 x 10 36 x 30 x 12	XLVS13630101 XLVS13630121	37.25 37.25	24.00 24.00	XLHZTMP9076 XLHZTMP9076
36 x 30 x 16	XLVS13630161	37.25	24.00	XLHZTMP9076
36 x 36 x 8	XLVS13636081	37.25	30.00	XLHZTMP9090
36 x 36 x 10	XLVS13636101	37.25	30.00	XLHZTMP9090
36 x 36 x 12	XLVS13636121	37.25	30.00	XLHZTMP9090
36 x 36 x 16	XLVS13636161	37.25	30.00	XLHZTMP9090
40 x 24 x 8	XLVS14024081	40.95	18.00	XLHZTMP10060
40 x 24 x 10	XLVS14024101	40.95	18.00	XLHZTMP10060
40 x 24 x 12 40 x 24 x 16	XLVS14024121 XLVS14024161	40.95 40.95	18.00 18.00	XLHZTMP10060 XLHZTMP10060
40 x 32 x 8	XLVS14032081	40.95	27.56	XLHZTMF10000 XLHZTMP10080
40 x 32 x 10	XLVS14032101	40.95	27.56	XLHZTMP10080
40 x 32 x 12	XLVS14032121	40.95	27.56	XLHZTMP10080
40 x 32 x 16	XLVS14032161	40.95	27.56	XLHZTMP10080
40 x 40 x 8	XLVS14040081	40.95	35.43	XLHZTMP100100
40 x 40 x 10	XLVS14040101	40.95	35.43	XLHZTMP100100
40 x 40 x 12	XLVS14040121	40.95	35.43	XLHZTMP100100
40 x 40 x 16 48 x 24 x 10	XLVS14040161 XLVS14824101	40.95 48.81	35.43 18.00	XLHZTMP100100 XLHZTMP12060
48 x 24 x 12	XLVS14824121	48.81	18.00	XLHZTMP12000 XLHZTMP12060
48 x 24 x 16	XLVS14824161	48.81	18.00	XLHZTMP12060
48 x 32 x 10	XLVS14832101	48.81	27.55	XLHZTMP12080
48 x 32 x 12	XLVS14832121	48.81	27.55	XLHZTMP12080
48 x 32 x 16	XLVS14832161	48.81	27.56	XLHZTMP12080
48 x 36 x 10	XLVS14836101	48.81	30.00	XLHZTMP12090
48 x 36 x 12	XLVS14836121	48.81	30.00	XLHZTMP12090
48 x 36 x 16	XLVS14836161	48.81	30.00	XLHZTMP12090
48 x 40 x 12 48 x 40 x 16	XLVS14840121	48.81	35.43 35.43	XLHZTMP120100
48 x 40 x 16 48 x 48 x 12	XLVS14840161 XLVS14848121	48.81 48.81	35.43 43.30	XLHZTMP120100 XLHZTMP120120
48 x 48 x 16	XLVS14848161	48.81	43.30	XLHZTMP120120
60 x 36 x 12	XLVS16036121	61.57	30.00	XLHZTMP15290
60 x 36 x 16	XLVS16036161	61.57	30.00	XLHZTMP15290
63 x 48 x 16	XLVS16348161	63.82	43.30	XLHZTMP160120

⁶³ X 48 X 16 XLVS16348161 53.82 43.30

For a 304 stainless steel enclosure, change S1 to S2 in catalog number (i.e. XLVS10906051 becomes XLVS20906051).

For a RAL 7032 painted steel enclosure, change S1 to PS in catalog number (i.e. XLVS10906051 becomes XLVPS0906051). Consult factory for other RAL colors § Enclosure sizes are H x W x D. 20 inch deep enclosures available - consult factory.

See Options and Accessories pages for more information.

††Fits enclosures with both vertical or horizontal mounting feet. For stainless steel or painted steel mounting plates, consult factory.

Ex-CELL Stainless Steel and Painted Steel Enclosures

Cl. I, Div. 2, Groups A,B,C,D† cULus to UL50 / C22.2 No. 94-M91 ATEX and IECEx Certified GOST-R and GOST-K Certified

Type 3S, 4, 4X IP66

High performance, high reliability enclosures for global applications

XLH Enclosures	with Horizontal	Mounting Feet		
Enclosure Size (mm) § (H x W x D)	Catalog Number	Fixing Center Vertical (mm)	Fixing Center Horizontal (mm)	Zinc Coated Steel Mounting Plate Catalog Number††
229 x 152 x 127	XLHS12315131	152	208	XLHZTMP2315
260 x 203 x 100	XLHS12620101	170	259	XLHZTMP2620
260 x 203 x 152	XLHS12620151	170	259	XLHZTMP2620
260 x 260 x 152	XLHS12626151	170	316	XLHZTMP2626
305 x 260 x 127	XLHS13026131	203	316	XLHZTMP3026
305 x 203 x 152	XLHS13020151	203	259	XLHZTMP3020
305 x 260 x 152	XLHS13026151	203	316	XLHZTMP3026
305 x 305 x 152	XLHS13030151	203	361	XLHZTMP3030
305 x 305 x 203	XLHS13030201	203	361	XLHZTMP3030
305 x 305 x 250	XLHS13030251	203	361	XLHZTMP3030
406 x 305 x 152	XLHS14030151	267	361	XLHZTMP4030
406 x 305 x 203	XLHS14030201	267	361	XLHZTMP4030
406 x 305 x 250	XLHS14030251	267	361	XLHZTMP4030
406 x 355 x 203	XLHS14035201	267	386	XLHZTMP4035
406 x 406 x 152	XLHS14040151	267	462	XLHZTMP4040
406 x 406 x 203	XLHS14040201	267	462	XLHZTMP4040
406 x 406 x 250	XLHS14040251	267	462	XLHZTMP4040
406 x 406 x 300	XLHS14040301	267	462	XLHZTMP4040
406 x 508 x 152	XLHS14050151	267	564	XLHZTMP4050
406 x 508 x 203	XLHS14050201	267	564	XLHZTMP4050
406 x 508 x 250	XLHS14050251	267	564	XLHZTMP4050
406 x 508 x 300	XLHS14050301	267	564	XLHZTMP4050
508 x 406 x 152	XLHS15040151	354	462	XLHZTMP5040
508 x 406 x 203	XLHS15040201	354	462	XLHZTMP5040
508 x 406 x 250 508 x 406 x 300	XLHS15040251 XLHS15040351	354 354	462 462	XLHZTMP5040 XLHZTMP5040
508 x 508 x 152	XLHS15050151	354	564	XLHZTMP5040 XLHZTMP5050
508 x 508 x 203	XLHS15050151	354	564	XLHZTMP5050 XLHZTMP5050
508 x 508 x 250		354	564	XLHZTMP5050 XLHZTMP5050
508 x 508 x 300	XLHS15050251 XLHS15050301	354	564	XLHZTMP5050
508 x 610 x 203	XLHS15060201	354	666	XLHZTMP5050 XLHZTMP5060
508 x 610 x 250	XLHS15060251	354	666	XLHZTMP5060 XLHZTMP5060
508 x 610 x 300	XLHS15060301	354	666	XLHZTMP5060
610 x 406 x 152	XLHS16040151	445	462	XLHZTMP6040
610 x 406 x 203	XLHS16040201	445	462	XLHZTMP6040
610 x 406 x 250	XLHS16040251	445	462	XLHZTMP6040
610 x 406 x 300	XLHS16040301	445	462	XLHZTMP6040
610 x 508 x 152	XLHS16050151	445	564	XLHZTMP6050
610 x 508 x 203	XLHS16050201	445	564	XLHZTMP6050
610 x 508 x 250	XLHS16050251	445	564	XLHZTMP6050
610 x 508 x 300	XLHS16050301	445	564	XLHZTMP6050
610 x 610 x 152	XLHS16060151	445	666	XLHZTMP6060
610 x 610 x 203	XLHS16060201	445	666	XLHZTMP6060
610 x 610 x 250	XLHS16060251	445	666	XLHZTMP6060
610 x 610 x 300	XLHS16060301	445	666	XLHZTMP6060
610 x 610 x 400	XLHS16060401	445	666	XLHZTMP6060
610 x 762 x 203	XLHS16076201	456	818	XLHZTMP6076
610 x 762 x 250	XLHS16076251	456	818	XLHZTMP6076
610 x 762 x 300	XLHS16076301	456	818	XLHZTMP6076
610 x 762 x 400	XLHS16176401	456	818	XLHZTMP6076
762 x 508 x 203	XLHS17650201	608	563	XLHZTMP7650
762 x 508 x 250	XLHS17650251	608	563	XLHZTMP7650
762 x 508 x 300	XLHS17650301	608	563	XLHZTMP7650
762 x 610 x 203	XLHS17660201	608	665	XLHZTMP7660
762 x 610 x 250	XLHS17660251	608	665	XLHZTMP7660
762 x 610 x 300	XLHS17660301	608	665	XLHZTMP7660
762 x 610 x 400	XLHS17660401	608	665	XLHZTMP7660
762 x 762 x 203	XLHS17676201	608	818	XLHZTMP7676
762 x 762 x 250	XLHS17676251	608	818	XLHZTMP7676
762 x 762 x 300	XLHS17676301	608	818	XLHZTMP7676
762 x 762 x 400	XLHS17676401	608	818	XLHZTMP7676
800 x 610 x 203	XLHS18060201	500	655	XLHZTMP8060
800 x 610 x 250	XLHS18060251	500	655	XLHZTMP8060
800 x 610 x 300	XLHS18060301 XLHS18060401	500 500	655 665	XLHZTMP8060 XI HZTMP8060

800 x 610 x 400 XLHS18060401 500 665

*For a 304 stainless steel enclosure, change S1 to S2 in catalog number (i.e. XLVS10906051 becomes XLVS20906051).

For a RAL 7032 painted steel enclosure, change S1 to PS in catalog number (i.e. XLVS10906051 becomes XLVPS0906051). Consult factory for other RAL colors § Enclosure sizes are H x W x D. 20 inch deep enclosures available - consult factory. †See Options and Accessories pages for more information.

††Fits enclosures with both vertical or horizontal mounting feet. For stainless steel or painted steel mounting plates, consult factory.



XLHZTMP8060

Ex-CELL Stainless Steel and Painted Steel Enclosures

Cl. I, Div. 2, Groups A,B,C,D† Type 3S, 4, 4X cULus to UL50 / C22.2 No. 94-M91 IP66 ATEX and IECEx Certified GOST-R and GOST-K Certified

High performance, high reliability enclosures for global applications

				Zinc Coated Steel
Enclosure Size (mm) §	Ostala a Namahan	Fining Contact Vertical (cons)	Finite Operator Having and Alfonson	Mounting Plate Catalog
(H x W x D)	Catalog Number	Fixing Center Vertical (mm)	Fixing Center Horizontal (mm)	Number††
800 x 800 x 203	XLHS18080201	500 500	856 856	XLHZTMP8080
800 x 800 x 250 800 x 800 x 300	XLHS18080251 XLHS18080301	500	856	XLHZTMP8080 XLHZTMP8080
800 x 800 x 300	XLHS18080401	500	856	XLHZTMP8080
914 x 610 x 203	XLHS19060201	650	665	XLHZTMP9060
914 x 610 x 250	XLHS19060251	650	665	XLHZTMP9060
914 x 610 x 200	XLHS19060301	650	665	XLHZTMP9060
914 x 610 x 400	XLHS19060401	650	666	XLHZTMP9060
914 x 762 x 203	XLHS19076201	650	818	XLHZTMP9076
914 x 762 x 250	XLHS19076251	650	818	XLHZTMP9076
914 x 762 x 300	XLHS19076301	650	818	XLHZTMP9076
914 x 762 x 400	XLHS19076301	650	818	XLHZTMP9076
914 x 914 x 203	XLHS19090201	650	970	XLHZTMP9090
914 x 914 x 250	XLHS19090251	650	970	XLHZTMP9090
914 x 914 x 300	XLHS19090301	650	970	XLHZTMP9090
914 x 914 x 400	XLHS19090401	650	970	XLHZTMP9090
1000 x 610 x 203	XLHS110060201	700	665	XLHZTMP10060
1000 x 610 x 250	XLHS110060251	700	665	XLHZTMP10060
1000 x 610 x 300	XLHS110060301	700	665	XLHZTMP10060
1000 x 610 x 400	XLHS110060401	700	665	XLHZTMP10060
1000 x 800 x 203	XLHS11008020	700	856	XLHZTMP10080
1000 x 800 x 250	XLHS110080251	700	856	XLHZTMP10080
1000 x 800 x 300	XLHS110080301	700	856	XLHZTMP10080
1000 x 800 x 400	XLHS110080401	700	856	XLHZTMP10080
1000 x 1000 x 203	XLHS110010020	700	1056	XLHZTMP100100
1000 x 1000 x 250	XLHS1100100251	700 700	1056	XLHZTMP100100
1000 x 1000 x 300 1000 x 1000 x 400	XLHS1100100301 XLHS1100100401	700	1056 1056	XLHZTMP100100 XLHZTMP100100
1200 x 610 x 250	XLHS112060251	800	665	XLHZTMP100100 XLHZTMP12060
1200 x 610 x 230	XLHS112060301	800	665	XLHZTMP12060 XLHZTMP12060
1200 x 610 x 400	XLHS112060401	900	665	XLHZTMP12060
1200 x 800 x 250	XLHS112080251	800	856	XLHZTMP12080
1200 x 800 x 300	XLHS112080301	800	856	XLHZTMP12080
1200 x 800 x 400	XLHS112080401	900	856	XLHZTMP12080
1200 x 914 x 250	XLHS112090251	800	970	XLHZTMP12090
1200 x 914 x 300	XLHS112090301	800	970	XLHZTMP12090
1200 x 914 x 400	XLHS112090401	900	970	XLHZTMP12090
1200 x 1000 x 300	XLHS1120100301	800	1056	XLHZTMP120100
1200 x 1000 x 400	XLHS1120100401	900	1056	XLHZTMP120100
1200 x 1200 x 300	XLHS1120120301	800	1256	XLHZTMP120120
1200 x 1200 x 400	XLHS1120120401	900	1256	XLHZTMP120120
1524 x 914 x 300	XLHS115290301	1100	970	XLHZTMP15290
1524 x 914 x 400	XLHS115290401	1100	970	XLHZTMP15290
1600 x 1200 x 400	XLHS1160120401	1100	1256	XLHZTMP160120

^{*}For a 304 stainless steel enclosure, change S1 to S2 in catalog number (i.e. XLVS10906051 becomes XLVS20906051).

For a RAL 7032 painted steel enclosure, change S1 to PS in catalog number (i.e. XLVS10906051 becomes XLVPS0906051). Consult factory for other RAL colors § Enclosure sizes are H x W x D. 20 linch deep enclosures available - consult factory.

†See Options and Accessories pages for more information.

††Fits enclosures with both vertical or horizontal mounting feet. For stainless steel or painted steel mounting plates, consult factory.

High performance, high reliability enclosures for global applications Cl. I, Div. 2, Groups A,B,C,D† cULus to UL50 / C22.2 No. 94-M91 ATEX and IECEx Certified GOST-R and GOST-K Certified

Type 3S. 4. 4X

Options for Ex-CELL Standard and Large

Padlockable Hasp (field-installable)

- · Provides a secondary means of security and safety
- · Manufactured from the same material grade as the enclosure
- Cat. # XLNPAHASP

Drawing Pockets

- Holders for engineering CAD drawings can be installed at the factory
- Cat. # SHS953324 A4 Document Holder - Orange
- Cat. # SHS953326 Letter Document Holder - Transparent
- · Customer stainless steel drawing pockets available - consult factory

Silicone Gasket

- Provides an operating temperature of -55°C to +55°C
- To order, add suffix "SIL" to end of catalog number

Rain / Deluge Canopy (consult factory)

· Can be retrofitted to the enclosure as required using existing fixing positions

ID Tag - Label and Bracket (consult factory)

Provides an effective solution for labeling enclosure assemblies with ID Tag Labels

Continuous Hinge (consult factory)

- Maintains door alignment by distributing open and close force along the entire length of the door
- Provides greater strength and support for larger door, ensuring years of smooth opening and closing
- · Removable pin allows cover to be easily removed from enclosure

Swing Out Panels

• Panel swings clear from the front of the enclosure to provide access to electrical and electronic components that are mounted internally (non-hazardous only)

Window Kits

- · Available in multiple sizes (listed below) for PLCs/monitors/metering, as well as other applications
- Window kits maintain NEMA 4X/IP66 rating when installed by our factory or an approved Eaton's Crouse-Hinds ATEX local assembler

Mounting Plates (Sub Plates)

· Stainless steel or painted steel mounting plates are available (consult factory)

Accessories

Catalog Number	Window Kit Sizes
ACCS1WK53	5" x 3" (127 x 76mm)
ACCS1WK95	9" x 5.5" (229 x 140mm)
ACCS1WK133	13" x 3" (330 x 76mm)
ACCS1WK175	17" x 5.5" (432 x 140mm)
ACCS1WK1212	12" x 12" (305 x 305mm)
ACCS1WK1711	17" x 11" (432 x 279mm)
ACCS1WK2315	23" x 15" (584 x 383mm)
ACCS1WK2919	29" x 19" (737 x 483mm)
ACCS1WK3523	35" x 23" (889 x 584mm)

Accessories

Locking Cover Hardware

Number	Туре
QBXLKSLOT	Slot Shape
QBXLKEE	Eastern European (D Shape)
QBXLKDBS	Double Bit Shape
QBXLKSQ8	Square 8mm
QBXLKSQ7	Square 7mm
QBXLKTR8	Triangular 8mm
QBXLKTR7	Triangular 7mm
QBXLKCWN	Crown Shape
QBXLKWKI	Wing Knob Insert with Standard Key
QBXLKPAD	L Padlockable Handle 10mm



Slot Shape







Eastern European (D Shape)

Ground Stud Kits

Catalog	
Number	Туре
ACCBSESM10KIT	M10 Brass
ACCS1ESM10KIT	M10 Stainless Steel
ACCBSESM14KIT	M14 Brass

Stand-off Pillars

Catalog Number	Туре	Inches
ACCSOP15	SP15	0.60
ACCSOP20	SP20	0.80
ACCSOP30	SP30	1.20











Double Bit Shape





Square





Triangular

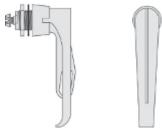




Crown Shape



Wing Knob with Standard Key



L Padlockable Handle 10mm

†When terminal blocks or approved Class I, Division 2 devices are installed within the enclosure in accordance with NEC/CEC requirements. These enclosures are NOT explosionproof and will NOT contain an explosion. Installation of arcing and sparking devices which are not Class I, Division 2 rated or higher is NOT PERMITTED.

Ex-CELL Sloped and Flush Mount Enclosures

cULus to UL50 / C22.2 No. 94-M91 **ATEX Certified**

Cl. I, Div. 2, Groups A,B,C,D† IECEx, GOST-R, and GOST-K Type 3S, 4, 4X **IP66**

Eagle

High performance, high reliability enclosures for global applications

Sloped Eagle Enclosures Applications:

• Ideal for highway, DOT, transportation, pharmaceutical, and telecommunications applications

Features:

- Water shedding design for vertical mounted applications protects critical electronics and instrumentation
- · Electro-polished stainless steel offers higher corrosion resistance than brushed stainless steel
- Available with 0 or 1 gland plate

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D†
- ATEX II 2 GD Ex e II IP66 (PTB02ATEX 1021U)
- Types 3S, 4, 4X and IP66
- GOST-R, GOST-K

Ordering Information:

Imperial Sizing (inches)		Metric (mm)					
Catalog Number	Height	Width	Depth	Catalog Number	Height	Width	Depth
XLE**121208*	12	12	8	XLE**303020*	305	305	203
XLE**161208*	16	12	8	XLE**403020*	406	305	203
XLE**161608*	16	16	8	XLE**404020*	406	406	203
XLE**201608*	20	16	8	XLE**504020*	508	406	203
XLE**202008*	20	20	8	XLE**505020*	508	508	203
XLE**242008*	24	20	8	XLE**605020*	610	508	203

Flush Mount Enclosures

Applications:

• Ideal for vertical mounting (wall) in a pharmaceutical or clean room application; or horizontal mounting (ceiling) in a plenum application

Features:

• Electro-polished stainless steel offers higher corrosion resistance than brushed stainless steel

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D†
- cULus to UL50 / C22.2 No. 94-M91
- ATEX II 2 GD Ex e II IP66 (PTB02ATEX 1021U)
- IECEx Ex e (IECEx BKI 08.0001U)
- GOST-R, GOST-K
- Types 3S, 4, 4X and IP66



Flush Mount

Ordering Information:

imperial Sizing (inches)			Metric (mm)				
Catalog Number	Height	Width	Depth	Catalog Number	Height	Width	Depth
XLF**0906050	9	6	5	XLF**2215130	229	152	127
XLF**1010060	10	10	6	XLF**2626150	260	260	152
XLF**1212060	12	12	6	XLF**3030150	305	305	152
XLF**1616060	16	16	6	XLF**4040150	406	406	152

Matria (mana)

† When terminal blocks or approved Class I, Division 2 devices are installed within the enclosure in accordance with NEC/CEC requirements. These enclosures are NOT explosion proof and will NOT contain an explosion. Installation of arcing and sparking devices which are not Class I, Division 2 rated or higher is NOT PERMITTED.

^{**}Designate material. S1 = 316L Stainless Steel; S2 = 304 Stainless Steel; PS = RAL 7032 Painted Steel

^{*}Designate 0 or 1 gland plate.

CI. I, Div. 2, Groups A,B,C,D† cULus to UL50 ATEX Certified IECEx Certified GOST-K, GOST-R Certified (Gangable only) Type 3S, 4X IP66

High performance, high reliability enclosures for global applications

XXL Double Door Enclosures

Applications:

- Ideal for food and dairy, wastewater treatment plants, and harsh environment wash down / hose down applications
- Protects extra large electronics and instrumentation such as PLCs, large displays and meters, air conditioners, fans, etc.

Features:

- Maintains NEMA 4/4X and IP66 ratings, as well as the certifications and compliances of the standard Ex-CELL enclosure
- Electro-polished stainless steel offers higher corrosion resistance than brushed stainless steel
- Floor mounted enclosures available with a number of options, including a liftting eye kit (Cat. # XXLS1LB KIT); see page 768 for door locking options
- · Available with 0 or 1 gland plate



XXL

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D†
- cULus to UL50
- Ex e II Gb (ITS09ATEX36875U)
- Ex tb IIIC Db IP66
- IECEx Ex e (IECEX BKI 08.0001U)
- Types 3S, 4, 4X and IP66
- · GOST-R, GOST-K

Technical Specifications:

• Operating temperature: -20 to +60°C

Ordering Information:

Imperial Sizing (inche	es)			Metric (mm)				Mounting Plate
Catalog Number	Height	Width	Depth	Catalog Number	Height	Width	Depth	Catalog Number
XXL**544208*	54	42	8	XXL**14010020*	1371	1066	203	XXLHZTMP140100
XXL**604810*	60	48	10	XXL**15012025*	1524	1219	254	XXLHZTMP150120
XXL**606012*	60	60	12	XXL**15015030*	1524	1524	305	XXLHZTMP150150
XXL**726020*	72	60	20	XXL**18015050*	1830	1524	508	XXLHZTMP180150
XXL**727224*	72	72	24	XXL**18018060*	1830	1830	610	XXLHZTMP180180

Gangable Enclosures

Applications:

 Allows versatility for protecting larger electronics and instrumentation such as drives, custom control panels, extra large terminal blocks, etc.

Features:

- Maintains NEMA 4/4X and IP66 ratings, as well as the certifications and compliances of the standard Ex-CELL enclosure
- Electro-polished stainless steel offers higher corrosion resistance than brushed stainless steel

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D†
- cULus to UL50 / C22.2 No. 94-M91
- ATEX II 2 GD Ex e II IP66 (PTB02ATEX 1021U)
- IECEx Ex e Certified (IECEX BKI 08.0001U)
- GOST-R. GOST-K
- Types 3S, 4, 4X and IP66

Ordering Information:

Available up to 48" x 96" x 12" - please consult factory for more information

†When terminal blocks or approved Class I, Division 2 devices are installed within the enclosure in accordance with NEC/CEC requirements. These enclosures are NOT explosionproof and will NOT contain an explosion. Installation of arcing and sparking devices which are not Class I, Division 2 rated or higher is NOT PERMITTED.

**Designate material. S1 = 316L Stainless Steel; S2 = 304 Stainless Steel; PS = RAL 7032 Painted Steel *Designate 0 or 1 gland plate.



IECEx **CEPEL GL** Certified

IP66

Ex e II

AEx Class I, Zone 1, AEx e

IIC. T6 GOST-R GOST-K

Ex ia IIC

Sheet or Stainless Steel Hinged Cover

Features/Applications:

The NXT series of enclosures available in two types of material finish have been designed to accommodate rail mounted terminals or other electrical components.

Stainless steel is recommended to give maximum protection for components in outdoor/aggressive environments.

Features of this series include thirteen basic sizes in two standard depths to optimize the accommodation of rail-mountable terminals or components.

- Fully removable hinged cover, concealed hinges provide 180° opening
- Cover mounting, two or three stainless steel captive screws on one side
- Lip on upstand increases gasket contact area, ensuring high degree of ingress protection
- · Internal/external ground stud
- 40mm wide mounting lugs for assembly on standard frames
- Option of 0, 1, 2, 3 or 4 gland plates
- One piece gasket on cover and gland plates
- · Padlock hasp available optional



Specifications:

opecinications.		
Description	Туре	Specification
Material		Stainless steel grades: standard is 316L (1.4401) & 304 on request (1.4301) or sheet steel
Finish	Painted 316L Stainless steel	RAL 7032 (Textured) Bright Chemical Dip (polished appearance)
Gasket	All types	Chloroprene gasket (RA104) is standard; optional silicone gasket (HT800) is available
Cover Mounting	All types	Fully detachable hinged cover with 2 or 3 x M6 hexagon head captive stainless steel screws
Grounding	All types	M10 internal/external ground stud
Box Mounting	All types	4 x external lugs, 0.394" clearance holes/slots
Equipment Mounting	All types	4 x stand off pillars 0.394" OD, tapped M6 x 0.394"
Ingress Protection	All types	IP66 to IEC529
Temperature Range	RA104 HT800	Chloroprene gasket: -49°F (-45°C) to 176°F (80°C) Optional silicone gasket: -85°F (-65°C) to 275°F (135°C)
Ambient Temperature		Chloroprene gasket: -49°F (-45°C) to 104°F (40°C) for T6; -49°F (-45°C) to 131°F (55°C) for T5 Optional silicone gasket: -85°F (-65°C) to 104°F (40°C) for T6; -85°F (-65°C) to 131°F (55°C) for T5
Impact Resistance	All types	7 J (Nm) to EN 50014
Deluge Test	All types	Spec. No. DTS 01

Factory Options (Consult Factory):

Description	Specification
Motorial	Chariel metarials or thickness according to quotomor appoint

Special materials or thickness according to customer specification Material Finish Special colors according to customer specification

Special sizes available (and certified) for customer applications - up to 41.33" x 24.02" x 8.07" (1050mm x **Sizes**

610mm x 200mm) largest

Equipment Terminals, glands, and Myers Hubs assembled according to customer specification

Gland plates Drilled cable glands fitted to customer specification **Ground Studs** Also available fitted to gland plates and cover

Versions for maximum shielding from EMI/RFI, 0 gland plate only

Cover Attachments e.g. Handles

Certifications and Compliances:

UL50/C22.2 N094-M91 mild steel: Types 3S, 4; stainless steel: Type 4X.

1. Component Certificate KEMA99ATEX3174 U

II 2 G Exell BVS 13ATEXE014U II 2 D ≥ IP64

CEPEL-EX-1199/06X **GL** Certification ABS: 10-LD638329A-PDA

ATEX 2. Certificate of Conformity KEMA99ATEX3172X II 2 G Ex e II T6 or T5 II 2 D T100°C ≥ IP64

GOST-R GOST-K

II 1 G Ex ia IIC T6 or T5 II 2 D T100°C ≥ IP64

II 2 (1) G Ex e ia IIC T6 or T5 II 2 D T100°C ≥ IP64

Crouse-Hinds by **F**_T•N

ATEX

Codes

NXT Series Enclosures

Sheet or Stainless Steel Hinged Cover

Cl. I, Div. 2, Groups A, B, C, D Ex e II **IECE**x

Ex ia IIC **CEPEL** AEx Class I, Zone 1, AEx e IIC, T6

GOST-R GOST-K

Top Bottom Left hand side	A B C	o
Right hand side	D	
		В

	A	
С		D
	В	

NXT 221513	
Height	9.02"
Width	5.98"
Depth	5.31"
Weight	7.17 lb
Gland Plate A/B	3.54/5.5
Gland Plate C/D	3.54/5.5

NXT 262616 Height Width Depth Weight

10.23" 10.23" 6.30" 12.13 lb Gland Plate A/B 4.72/10"

NXT 262620 Height 10.23" Width 10.23" Depth 8.07" Weight 12.13 lb Gland Plate A/B 6.46/10"

NXT 303016 Height 12.05" Width 12.05" Depth 6.30" Weight 15.43 lb Gland Plate A/B 4.33/11.42"

Ordering Data:		Gland Plate C/D 3.54/5.51"	Gland Plate C/D 4.72/6.06"	Gland Plate C/D 6.46/6.06"	Gland Plate C/D 4.33/7.48"
Туре	Description	Cat. #	Cat. #	Cat. #	Cat. #
0 Gland Plates	Paint Finish Stainless Steel Finish	NXTPS2215130 NXTS12215130	NXTPS2626160 NXTS12626160	NXTPS2626200 NXTS12626200	NXTPS3030160 NXTS13030160
1 Gland Plate Side B (Bottom)	Paint Finish Stainless Steel Finish	NXTPS2215131 NXTS12215131	NXTPS2626161 NXTS12626161	NXTPS2626201 NXTS12626201	NXTPS3030161 NXTS13030161
2 Gland Plates Sides A + B (Top and Bottom)	Paint Finish Stainless Steel Finish	NXTPS2215132 NXTS12215132	NXTPS2626162 NXTS12626162	NXTPS2626202 NXTS12626202	NXTPS3030162 NXTS13030162
3 Gland Plates Sides B, C + D (Bottom and Sides	Paint Finish Stainless Steel Finish)	NXTPS2215133 NXTS12215133	NXTPS2626163 NXTS12626163	NXTPS2626203 NXTS12626203	NXTPS3030163 NXTS13030163
4 Gland Plates Sides A, B, C + D (All Sides)	Paint Finish Stainless Steel Finish	NXTPS2215134 NXTS12215134	NXTPS2626164 NXTS12626164	NXTPS2626204 NXTS12626204	NXTPS3030164 NXTS13030164

GL Certified

IP66

Gland Sizes (mm) per Plate (Reference Only):

	Top/	Left/	Top/	Left/	Top/	Left/	Top/		
Brass Glands	Bottom	Right	Bottom	Right	Bottom	Right	Bottom	Left	Right
M16	6	6	20	9	33	18	26	20	26
M20	3	3	10	6	15	9	14	10	14
M25	2	2	6	3	12	5	8	8	8
M32	1	1	3	2	6	4	4	3	4
M40	1	1	3	1	5	2	3	3	3
M50	1	1	2	1	3	1	3	2	3

Top Bottom Left hand side Right hand side	A B C D	c
--	------------------	---

Α		A	
A B C			_
С	0		В
D			
		В	

NXT 30302	NXT 382616				
Height	12.05"	Height	14		
Width	12.05"	Width	10		
Depth	8.07"	Depth	6.		
Weight	15.43 lb	Weight	15		
Gland Plate A/B Gland Plate C/D	4.33/11.42" 4.33/7.48"	Gland Plate A/B Gland Plate C/D	4.		

eight 14.96" /idth 10.24" 6.29" epth 15.43 lb Veight land Gland Plate A/B 4.72/10" Gland Plate C/D 4.72/10"

NXT 382620 Height 14.96" Width 10.24" Depth 8.07" Weight 15.43 lb Gland Plate A/B 6.46/10" Gland Plate C/D 6.46/10"

NXT 453820 NXT 453816 Height 18.031" Height Width 15.039" Width 6.29" Depth Weight 21.45 lb Gland Plate A/B 3.15/13.27" Gland
Plate A/B 3.15/13.27"
Gland
Plate C/D 3.15/13.27"
Gland
Plate C/D 3.15/13.27"
Gland
Plate C/D 4.33/14.57"

15.039" Depth 8.071" Weight 21.45 lb

Ordering	Data:
Type	

Туре	Description	Cat. #				
0 Gland Plates	Paint Finish Stainless Steel Finish	NXTPS3030200 NXTS13030200	NXTPS3826160 NXTS13826160	NXTPS3826200 NXTS13826200	NXTPS4538160 NXTS14538160	NXTPS4538200 NXTS14538200
1 Gland Plate Side B (Bottom)	Paint Finish Stainless Steel Finish	NXTPS3030201 NXTS13030201	NXTPS3826161 NXTS13826161	NXTPS3826201 NXTS13826201	NXTPS4538161 NXTS14538161	NXTPS4538201 NXTS14538201
2 Gland Plates Sides A + B (Top and Bottom)	Paint Finish Stainless Steel Finish	NXTPS3030202 NXTS13030202	NXTPS3826162 NXTS13826162	NXTPS3826202 NXTS13826202	NXTPS4538162 NXTS14538162	NXTPS4538202 NXTS14538202
3 Gland Plates Sides B, C + D (Bottom and Sides)	Paint Finish Stainless Steel Finish	NXTPS3030203 NXTS13030203	NXTPS3826163 NXTS13826163	NXTPS3826203 NXTS13826203	NXTPS4538163 NXTS14538163	NXTPS4538203 NXTS14538203
4 Gland Plates Sides A, B, C + D (All Sides)	Paint Finish Stainless Steel Finish	NXTPS3030204 NXTS13030204	NXTPS3826164 NXTS13826164	NXTPS3826204 NXTS13826204	NXTPS4538164 NXTS14538164	NXTPS4538204 NXTS14538204
01 101 /	\ DI : /D		`	I	1	

Gland	Sizes	(mm)	per	Plate	(Reference	Only):
					T /	1.7

	Top/			Top/	Left/	Top/	Left/	Top/	Left/	Top/	Left/
Brass Glands	Bottom	Left	Right	Bottom	Right	Bottom	Right	Bottom	Right	Bottom	Right
M16	32	38	32	20	20	33	33	29	29	44	44
M20	18	15	18	10	10	15	15	18	18	24	24
M25	15	12	15	6	6	12	12	10	10	20	20
M32	8	6	8	3	3	6	6	6	6	10	10
M40	6	5	6	3	3	5	5	5	5	8	8
M50	3	3	3	2	2	3	3	4	4	4	4

NXT Series Enclosures

Sheet or Stainless Steel Hinged Cover

Cl. I, Div. 2, Groups A, B, C, D IECEx CEPEL GL Certified IP66

Ex ia IIC AEx Class I, Zone 1, AEx e IIC, T6 GOST-R GOST-K

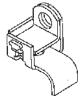
Ex e II

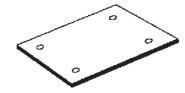
Top Bottom Left hand side Right hand side Ordering Data	Width Depth Weight Gland	18.898" 18.898" 8.071" 22.88 lb 4.33/14.57"	NXT 503520 Height 19.685" Width 13.78" Depth 8.071" Weight 23.1 lb Gland Plate A/B 6.46/13.54" Gland Plate C/D 6.46/13.54"		NXT 624520 Height 24.41" Width 17.72" Depth 8.07" Weight 37.48 lb Gland Plate A/B 6.46/17.48" Gland Plate C/D 6.46/17.48"		NXT 745520 Height 29.13" Width 17.72" Depth 8.07" Weight 37.48 lb Gland Plate A/B 6.46/17.48" Gland Plate C/D 6.46/17.48"		
Type 0 Gland Plates	Description Paint Finish Stainless Steel Finish	Cat. # NXTPS48 NXTS148			Cat. # NXTPS5035200 NXTS15035200		Cat. # NXTPS6245200 NXTS16245200		67455200 17455200
1 Gland Plate Side B (Bottom)	Paint Finish Stainless Steel Finish	NXTPS48 NXTS148		NXTPS:	5035201 5035201	_	6245201 6245201		67455201 17455201
2 Gland Plates Sides A + B (Top and Bottom)	Paint Finish Stainless Steel Finish	NXTPS48 NXTS148		NXTPS5035202 NXTS15035202		NXTPS6245202 NXTS16245202			\$7455202 17455202
3 Gland Plates Sides B, C + D (Bottom and Sides)	Paint Finish Stainless Steel Finish	NXTPS48 NXTS148		1	5035203 5035203		6245203 6245203		87455203 17455203
4 Gland Plates Sides A, B, C + D (All Sides)	Paint Finish Stainless Steel Finish	NXTPS48 NXTS148	348204	NXTS1	5035204 5035204	_	6345204 6245204		67455204 17455204
Gland Sizes (mm) per Plate (R	eferenc	e Only):	Top/	Left/	Top/	Left/	Top/	Left/
Brass Glands		Bottom L	eft Right	Bottom	Right	Bottom	Right	Bottom	Right
M16 M20 M25 M32 M40 M50		30 2 24 2 14 1	14 53 24 30 20 24 10 14 3 11 4 5	40 24 18 10 7 4	40 24 18 10 7 4	53 30 24 14 11 5	53 30 24 14 11 5	60 39 30 18 13	60 39 30 18 13
		1	-	1		1			
Top Bottom Left hand side Right hand side	A B C D D	Height Width Depth Weight Gland Plate A/B	30" 20" 8.07" 51.81 lb 4.33/19.69"	Height Width Depth Weight Gland Plate A/B	33.86" 25.20" 8.07" 63.93 lb	NXT 91612 Height Width Depth Weight Gland Plate A/B	35.99" 24.02" 8.07" 68.34 lb 5.512/23.62"	Height Width Depth Weight Gland Plate A/B	38.58" 29.13" 8.07" 83.76 lb 6.46/13.54"
Ordering Dat	a:	Gland Plate C/D	4.33/19.69"	Gland Plate C/D 6.46/24.96"		Gland Plate C/D 5.512/23.62"		Gland Plate C/D 2x6.46/17.48"	
Туре	Description	Cat. #		Cat. #		Cat. #		Cat. #	
0 Gland Plates	Paint Finish Stainless Steel Finish		7650200 7650200		8664200 8664200	NXTPS9161200 NXTS19161200			S9874200 19874200
1 Gland Plate Side B (Bottom)	Paint Finish Stainless Steel Finish	NXTS1	7650201 7650201	NXTS1	8664201 8664201	NXTS1	9161201 9161201	NXTS	S9874201 19874201
2 Gland Plates Sides A + B (Top and Bottom)	Paint Finish Stainless Steel Finish		7650202 7650202		8664202 8664202		9161202 9161202		S9874202 19874202
3 Gland Plates Sides B, C + D (Bottom and Sides)	Paint Finish Stainless Steel Finish		7650203 7650203	1	8664203 8664203		9161203 9161203		59874203 19874203
4 Gland Plates Sides A, B, C + D (All Sides)	Paint Finish Stainless Steel Finish	NXTS1	7650204 7650204	NXTS1	18664214 8664204		9161204 9161204		S9874204 19874204
Gland Sizes (mm) per Plate (R				1.64/	Tors /	1.044/	Tors /	1 064
Brass Glands		Top/ Bottom	Left/ Right	Top/ Bottom	Left/ Right	Top/ Bottom	Left/ Right	Top/ Bottom	Left/ Right
M16 M20 M25 M32 M40 M50		53 30 24 14 11 5	72 45 35 20 13 7	72 45 35 20 13 7	40 24 18 10 7 4	72 42 24 18 8 7	72 42 24 18 8 7	40 24 18 10 7 4	53 30 24 14 11 5

2E

Sheet or Stainless Steel Hinged Cover Accessories

Accessories:







Mounting Plates:

Material: Tufnol, zinc coated or stainless steel

Enclosure Size	Tufnol Cat. #	Zinc Coated Steel Cat. #	Stainless Steel Cat.#
NXT2215	NXTTLMP2215	NXTZTMP2215	NXTS1MP2215
NXT2626	NXTTLMP2626	NXTZTMP2626	NXTS1MP2626
NXT3030	NXTTLMP3030	NXTZTMP3030	NXTS1MP3030
NXT3826	NXTTLMP3826	NXTZTMP3826	NXTS1MP3826
NXT4538	NXTTLMP4538	NXTZTMP4538	NXTS1MP4538
NXT4848	NXTTLMP4848	NXTZTMP4848	NXTS1MP4848
NXT5035	NXTTLMP5035	NXTZTMP5035	NXTS1MP5035
NXT6245	NXTTLMP6245	NXTZTMP6245	NXTS1MP6245
NXT7455	NXTTLMP7455	NXTZTMP7455	NXTS1MP7455
NXT7650	NXTTLMP7650	NXTZTMP7650	NXTS1MP7650
NXT8664	NXTTLMP8664	NXTZTMP8664	NXTS1MP8664
NXT9161	NXTTLMP9161	NXTZTMP9161	NXTS1MP9161
NXT9874	NXTTLMP9874	NXTZTMP9874	NXTS1MP9874

Stand-off Pillars:

Туре	Inches	Cat.#.
SP15	0.60	ACCSOP15
SP20	0.80	ACCSOP20
SP30	1.20	ACCSOP30

Lock:

Type Cat. #

NP6 Brass Lock and 2 Keys NXTNP6BL2K

. .

 Hasp:
 Cat. #

 NPA6
 NXTNPAHASP

Stainless Steel, for Type NP6 Padlocks

Mount on Enclosure by Removing Cover Screw and Fitting Hasp Between Cover and Screw.

Assembly Rail:

7.000mbiy itam		
Туре	Length	Cat. #
TS35	78.74"	ACCTS352M
TAS20	78.74"	ACCTAS202M

Ground Stud Kits:

Туре	Cat. #
M10 Brass	ACCBSES M10 KIT
M10 Stainless Steel	ACCS1ESM10KIT
M14 Brass	ACCBSESM14KIT

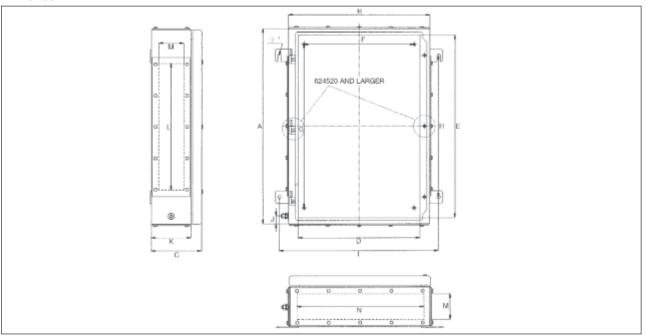
Metric Screws for Mounting Plate:

Description	Cat. #
4/set	CCH4142

Sheet or Stainless Steel Hinged Cover Accessories

Dimensions

In Inches:



NXT	Enclos	ure S	eries												
Code	Type	Α	В	С	D	E	F	G	Н	I	J	K	L	M	N
NXT*	221513†	9.02	5.98	5.12	3.50	7.48	2.05	5†	5.98	8.19	0.98	4.01	4.25	2.28	4.25
NXT	262616 (262620)	10.24	10.24	6.30 (8.08)	7.76	8.70	6.30	6.30	6.69	12.44	0.98	4.96 (6.77)	4.49	3.15 (4.88)	8.43
NXT*	303016 (303020)	12.04	12.05	6.30 (8.08)	9.57	10.51	8.11	8.11	7.99	14.21	0.98	4.96 (6.77)	Left 8.43 Right 10.28	3.15 (4.88)	10.28
NXT	382616 (382620)	14.97	10.24	6.30 (8.08)	7.76	13.43	6.30	11.02	9.84	12.44	0.98	4.96 (6.77)	8.43	3.15 (4.88)	8.43
NXT*	453820	18.01	15.04	8.08	12.56	16.50	11.10	14.09	12.00	17.21	0.98	6.77	13.27	4.88	13.27
NXT*	484820	18.90	18.90	8.08	16.42	17.36	14.96	14.96	12.87	21.06	0.98	6.77	Left 13.27 Right 15.91	7 4.88	15.91
NXT	503520	19.69	13.79	8.08	11.30	18.15	9.84	15.75	13.78	15.98	0.98	6.77	11.97	4.88	11.97
NXT	624520	24.41	17.72	8.08	15.24	22.87	13.78	20.47	17.72	19.92	0.98	6.77	15.91	4.88	15.91
NXT	745520	29.13	21.66	8.08	19.18	27.60	17.72	25.18	21.26	23.86	0.98	6.77	19.84	4.88	19.84
NXT*	765020	30.00	20.00	8.08	17.52	28.47	16.06	26.06	20.00	22.21	0.98	6.77	23.39	4.25	18.27
NXT	866420	33.86	25.20	8.08	22.72	32.32	21.26	29.92	22.44	27.40	0.98	6.77	2 x 11.97	4.88	23.39
NXT*	916120	35.98	24.02	8.08	21.54	34.45	20.08	32.05	22.00	26.22	0.98	6.77	22.32	4.25	22.28
NXT	987420	38.58	29.13	8.08	26.65	37.05	25.20	34.65	27.56	31.34	0.98	6.77	2 x 15.91	4.88	2 x 11.97

Subtract 1.18" from dimension 'I' for mounting center when side gland plates are not used.
 NXT 221513 has two stand off pillars only, mounted on the center line.

NEMA 3S, 4 (Painted Steel),

NEMA 4X (Stainless Steel), NEMA 6, IP66

GOST-R, GOST-K IECEX GL Certified Zone 1, 2, 21, 22

Sheet or Stainless Steel

Ex e II Ex ia IIC

Features/Applications:

- The STB series of sheet steel enclosures are designed to meet the requirement for distribution and lighting junction boxes.
- Available in 14 sizes with standard finishes of painted or 316L stainless steel, together with the high IP rating, make these enclosures suitable for all environmental conditions.
- The stainless steel versions are particularly recommended for use in marine or other corrosive environments.
- Painting of these enclosures uses a two stage elecrophoretic dip coat system.
- Treatment includes iron phosphate and paint application followed by electrostatic polyester powder coating.
- When applied to a mild steel substrate gives a minimum of 500 hours salt spray resistance.

Certifications and Compliances:



- Class I, Division 2, Groups A, B, C, D
- UL/cUL Listed
- NEMA 3S, 4 (Painted Steel), NEMA 4X (Stainless Steel), NEMA 6, IP66
- Ex e II
- Ex ia IIC
- GOST-R, GOST-K
- IECEx
- GL certified
- Zone 1, 2, 21, 22

UL50/C22.2 No. 94-M91 mild steel: Types 3S, 4; stainless steel: Type 4X. Germanischer Lloyd (GL)

(Excluding STB151208 & STB 191509)



ATEX 1. Component Certificate BVS13ATEXE015U

Codes

II 2 G Ex e II II 2 D ≥ IP66

GOST-R/GOST-K NEMA 6 per CSA Certification GL Certification

ATEX 2. Certificate of Conformity KEMA99ATEX7894 X

Codes

II 2 G Ex e II T6 or T5 II 2 D T100°C ≥ IP66 II 1 G Ex ia IIC T6 or T

II 1 G Ex ia IIC T6 or T5
II 2 D T100°C ≥ IP66
II 2 (1) G Ex e ia IIC T6 or T5

II 2 D T100°C ≥ IP66

ABS: 10-LD638329B-PDA

Specifications:

-poomounom	J.	
Description		Specification
Material		1.5mm thick stainless steel grades 316L (1.4401) & 304 (1.4301) or sheet steel
Finish		Painted – RAL 7032, Grey Stainless Steel – 'Bright Chemical Dip'
Gasket		Chloroprene gasket (standard); HT800 silicone gasket (optional)
Cover Mounting		4 x M6 Slotted, Hexagon Head, Captive Screws
Grounding		M6 Internal/External Ground Stud
Box Mounting	STB 121208-252512 STB 163812-254013	2 x External Lugs with 0.315" Clearance Holes 4 x External Lugs with 0.315" Clearance Holes
Equipment Mounting	g	TAS 20 Rail Welded to Base of Enclosure, to Which Equipment is Mounted by Means of Sliding Mounting Nut and Screw (1 Rail STB 121208-191910, Rails STB 252512-254030)
Ingress Protection		IP66 BSEN 60529
Temperature Range		Chloroprene gasket: -49°F (-45°C) to +185°F (85°C) Silicone HT800 gasket: -85°F (-65°C) to +275°F (135°C)
Ambient Temperatur	re	Chloroprene gasket: -49°F (-45°C) to +104°F (40°C) T6; -49°F (-45°C) to +131°F (55°C) T5 Silicone HT800 gasket: -85°F (-65°C) to +104°F (40°C) T6; -85°F (-65°C) to +131°F (55°C) T5
Impact Resistance		7 J(Nm) to EN 50014
Gland Plates	STB 383822- STB 604022	2 Optional 3mm thick gland plates available in bottom, left, top, and right configurations

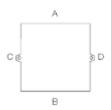
Factory Options (Consult Factory):

Description	Specification
Finishes	Alternative paint colors
Assembly	Supplied with terminals, glands, drilled or drilled and tapped entries, breather/drains, and Myers Hubs
Ambient Temperature Suitability	-65 to +135°C ambient temperature suitability with optional silicone gasket
Fireproof STB Enclosure	Fireproof STB enclosure available for 10,000°C to ½ hour operation with special coating

STB Series Junction Boxes

Sheet or Stainless Steel Ordering Information

CI. I, Div. 2, Groups A, B, C, D UL/cUL NEMA 3S, 4 (Painted Steel), NEMA 4X (Stainless Steel), NEMA 6, IP66 Ex e II GOST-R, GOST-K IECEX GL Certified Zone 1, 2, 21, 22



A = Top B = Bottom C = Left Hand Side D = Right Hand Side

Ordering Data: Standard Paint Finish Stainless Steel Finish

Guide to Gland Entries:

Max. Gland Area Dimensions

 STB 121208

 Height
 4.73"

 Width
 4.72"

 Depth
 3.15"

 Weight
 3.09 lb.

Ex ia IIC

STBPS121208 STBS1121208

Sides	Size
A, B, C	4.49" x 2.48"
D	2.76" x 2.48"

Gland Sizes (mm) per Side (Reference Only):

Brass Glands with Locknuts	Side A	Side B	Side C	Side D
16	5	5	6	4
20	3	2	3	2
25	2	2	2	1
32	1	1	2	1
40	_	_	_	_
50	_	_	-	_

 STB 151208

 Height
 5.91"

 Width
 4.72"

 Depth
 3.15"

 Weight
 3.50 lb.

Size

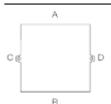
STBPS151208 STBS1151208

Sides

A, B

Side A	Side B	Side C	Side D
6	5	7	5
3	2	4	3
2	2	3	2
1	1	2	1
_	_	_	_

4.49" x 2.48" 5.67" x 2.48" 3.94" x 2.48"



A = Top B = Bottom C = Left Hand Side D = Right Hand Side

Ordering Data:
Standard Paint Finish
Stainless Steel Finish

Guide to Gland Entries:

Max. Gland Area Dimensions

STB 151509
Height 5.91"
Width 5.91"
Depth 3.54"
Weight 4.19 lb.

STBPS151509 STBS1151509

 Sides
 Size

 A, B, C
 5.67" x 2.87"

 D
 3.94" x 2.87"

Gland Sizes (mm) per Side (Reference Only):

			,-	
Brass Glands with Locknuts	Side A	Side B	Side C	Side D
16	8	8	8	6
20	5	4	5	3
25	3	3	3	2
32	2	2	2	1
40	1	1	2	1
50	_	_	_	_

STB 191509
Height 7.48"
Width 5.91"
Depth 3.54"
Weight 5.40 lb.

STBPS191509 STBS1191509

 Sides
 Size

 A, B
 5.67" x 2.87"

 C
 7.24" x 2.87"

 D
 5.12" x 2.87"

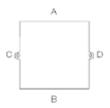
Side A	Side B	Side C	Side D
9	8	12	8
5	4	7	5
3	3	4	3
2	2	3	2
2	1	2	2
_	_	_	_

STB Series Junction Boxes

Sheet or Stainless Steel Ordering Information

Cl. I, Div. 2, Groups A, B, C, D UL/cUL NEMA 3S, 4 (Painted Steel), NEMA 4X (Stainless Steel), NEMA 6, IP66 Zone 1, 2, 21, 22

GOST-R, GOST-K **IECE**x **GL** Certified



A = TopB = Bottom

C = Left Hand Side D = Right Hand Side

Ordering Data:

Standard Paint Finish Stainless Steel Finish

Guide to Gland Entries:

Max. Gland Area Dimensions

STB 191910 7.48" Height Width 7.48" Depth 3.94" Weight 6.61 lb.

Ex ia IIC

STBPS191910 STBS1191910

Sides	Size
A, B, C	7.24" x 3.27"
D	5.51" x 3.27"

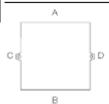
STB 252512 9.84" Height 9.84" Width Depth 4.73" Weight 8.16 lb.

> STBPS252512 STBS1252512

Size
9.61" x 4.05" 7.87" x 4.05"

Gland Sizes (mm) per Side (Reference Only):

Brass Glands with Locknuts	Side A	Side B	Side C	Side D	Side A	Side B	Side C	Side D
16	13	12	14	9	24	23	24	18
20	8	7	8	6	13	12	13	10
25	5	4	5	4	10	9	10	8
32	3	3	3	2	5	5	5	4
40	2	2	2	2	3	3	3	3
50	2	1	2	1	3	2	3	2
63	-	-	-	-	2	2	2	2



A = TopB = BottomC = Left Hand Side

D = Right Hand Side

Ordering Data:

Standard Paint Finish Stainless Steel Finish

Guide to Gland Entries:

Max. Gland Area Dimensions

STB 163812 Height 8.30" Width 14.96" 4.72" Depth Weight 8.14 lb.

STBPS163812 STBS1163812

Sides	Size
A, B, C	14.64" x 4.05"
D	12.99" x 4.05"

STB 254013

Height 9.84" Width 15.74" 5.12" Depth Weight 11.88 lb.

STBPS254013 STBS1254013

Sides	Size
A, B, C	15.51" x 4.45"
D	13.78" x 4.45"

Gland Sizes (mm) per Side (Reference Only):

		3,						
Brass Glands with Locknuts	Side A	Side B	Side C	Side D	Side A	Side B	Side C	Side D
16	36	35	15	9	48	47	30	24
20	21	21	7	5	27	27	17	14
25	16	15	6	4	16	16	10	8
32	9	9	3	2	11	11	7	6
40	6	5	2	1	7	6	4	3
50	4	4	1	1	5	5	3	2
63	3	3	1	1	4	3	2	2

Crouse-Hinds by **F**:**T•N**

STB Series Junction Boxes

Sheet or Stainless Steel Ordering Information

CI. I, Div. 2, Groups A, B, C, D

UL/cUL

NEMA 3S, 4 (Painted Steel), NEMA 6, IP66

Evalure

GOST-R, GOST-K

IECEX

GL Certified

Zone 1, 2, 21, 22

STB 3838223

STBPS3838223

STBS13838223

STB 4060223

STBPS4060223

STBS14060223

15.75"

23.62"

Size

19.84" x 4.88" 11.97" x 4.88" 13.27" x 4.88"

8.66" 36.30 lb.

Height

Width

Depth

Sides

A, B

C

Weight

Size

13.27" x 4.88" 13.27" x 4.88" 10.28" x 4.88"

Height

Width

Depth

Weight

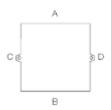
Sides

A, B C D 14.96"

14.96"

25.96 lb.

8.66"



A = Top B = Bottom C = Left Hand Side D = Right Hand Side

Ordering Data:
Standard Paint Finish
Stainless Steel Finish

Guide to Gland Entries

Max. Gland Area Dimensions

STB 3838220	
Height	14.96"
Width	14.96"
Depth	8.66"
Weight	18.70 lb.

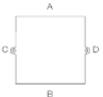
STBPS3838220 STBS13838220

Ex ia IIC

Sides	Size
A, B	14.72" x 7.99"
С	14.72" x 7.99"
D	12.76" x 7.99"

Gland Sizes (mm) per Side (Reference Only):

			- 3 / -					
Brass Glands with Locknuts	Side A	Side B	Side C	Side D	Side A	Side B	Side C	Side D
16	100	100	100	88	46	46	46	34
20	57	57	57	48	26	26	26	20
25	40	40	40	33	21	21	21	15
32	24	24	24	20	11	11	11	8
40	15	15	15	12	9	9	9	6
50	8	8	8	7	4	4	4	3
63	6	6	6	5	3	3	3	2



A = Top B = Bottom C = Left Hand Side D = Right Hand Side

Ordering Data:

Standard Paint Finish Stainless Steel Finish

Guide to Gland Entries:

Max. Gland Area Dimensions

STB 4060220					
Height	15.75"				
Width	23.62"				
Depth	8.66"				
Weight	28.60 lb.				

STBPS4060220 STBS14060220

Sides	Size
A, B	23.39" x 7.99"
C	15.51" x 7.99"
D	13.54" x 7.99"

Gland Sizes (mm) per Side (Reference Only):

Brass Glands with Locknuts	Side A	Side B	Side C	Side D	Side A	Side B	Side C
16	164	164	108	92	70	70	46
20	93	93	60	51	39	39	26
25	65	65	40	35	32	32	21
32	40	40	26	22	17	17	11
40	26	26	17	14	14	14	9
50	14	14	9	7	6	6	4
63	11	11	7	6	5	5	3

Crouse-Hinds

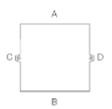
STB Series Junction Boxes Cl. I, Div. 2, Groups A, B, C, D

Sheet or Stainless Steel Ordering Information

UL/cUL NEMA 3S, 4 (Painted Steel), NEMA 4X (Stainless Steel), NEMA 6, IP66

Ex ia IIC

GOST-R, GOST-K **IECE**x **GL** Certified Zone 1, 2, 21, 22



A = Top B = Bottom C = Left Hand Side D = Right Hand Side

Ordering Data:

Standard Paint Finish Stainless Steel Finish

Guide to Gland Entries:

Max. Gland Area Dimensions

STB 6040	0220
Height	23.62"
Width	15.75"
Depth	8.66"
Weight	28.60 lb.

STBPS6040220 STBS16040220

Sides	Size
A, B	15.51" x

7.99" 23.39" x 7.99" 21.42" x 7.99" С

Gland Sizes (mm) per Side (Reference Only):

Brass Glands with Locknuts	Side A	Side B	Side C	Side D
16	108	108	164	152
20	60	60	93	84
25	40	40	65	60
32	26	26	40	38
40	17	17	26	23
50	9	9	14	13
63	7	7	11	10

STB 6040223 Height Width 23.62" 15.75" Depth 8.66" 36.30 lb. Weight

STBPS6040223 STBS16040223

Sides	Size
A, B	13.27" x 4.88"
С	13.27" x 4.88"
D	13.27" x 4.88"

Side A	Side B	Side C	Side D	
46	46	46	46	
26	26	26	26	
21	21	21	21	
11	11	11	11	
9	9	9	9	
4	4	4	4	
2	2	2	2	

STB Series Enclosures

Sheet or Stainless Steel Accessories and Dimensions

CI. I, Div. 2, Groups A, B, C, D UL/cUL NEMA 3S, 4 (Painted Steel), NEMA 4X (Stainless Steel), NEMA 6, IP66 Ex e II Ex ia IIC GOST-R, GOST-K IECEx GL Certified Zone 1, 2, 21, 22

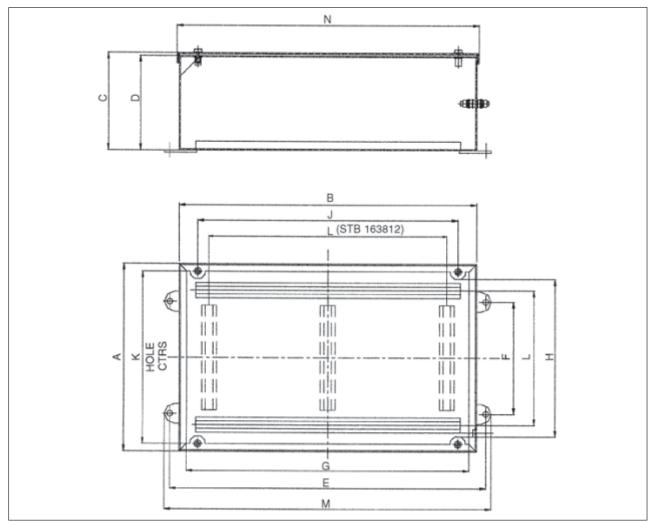
Accessories:

Mounting Hardware

Sliding mounting nuts and screws for mounting assemblies or components to the support rail type TAS 20

Description	Type	Cat. #
M5 screw for TS 32/TS 35	SFNS 5	ACCSFNM5
M4 screw for TS15	SFNS 4	ACCSFNM4
M3 screw for terminal strips	SFNS 3	ACCSFNM3
Ground Stud Kits	M6 Brass	ACCBSES M6 KIT

Dimensions In Inches:



Cat. #	Α	В	С	D	E	F	G	Н	J	K	L	M	N
STB 121208	4.72	4.72	3.15	2.99	5.71	N/A	3.94	3.15	2.76	3.94	N/A	6.26	4.96
STB 151208	5.90	4.72	3.15	2.99	5.71	N/A	5.12	3.15	3.94	3.94	N/A	6.26	6.14
STB 151509	5.90	5.90	3.54	3.39	6.89	N/A	3.94	5.12	3.94	5.12	N/A	7.44	6.14
STB 191509	7.48	5.90	3.54	3.39	6.89	N/A	6.69	4.33	5.12	5.51	N/A	7.44	7.72
STB 191910	7.48	7.48	3.94	3.78	8.46	N/A	6.69	5.90	5.51	6.69	N/A	9.02	7.72
STB 252512	9.84	9.84	4.72	4.57	10.83	N/A	9.05	8.27	9.05	9.05	7.09	11.38	16.08
STB 163812	6.30	14.96	4.72	4.57	15.94	3.15	14.17	4.72	12.99	5.51	11.81	16.50	15.20
STB 254030	9.84	15.75	5.12	4.96	16.73	5.90	14.96	8.27	13.78	9.05	7.09	17.28	15.98

HVB Series Enclosures 2E

Sheet or Stainless Steel High Voltage Junction Box

Features/Applications:

- The high voltage enclosures have been designed for the termination of high voltage pumps ("down hole" pumps)
- The HVB's are available in both stainless steel, fully polished or sheet steel with paint finish
- Gland plates are provided top and bottom for cable entry
- The units are complete with 3 or 4 pole assemblies to accept standard cable lugs up to 1.18" wide and an M12 hole
- Live parts are protected by a clear cover, giving protection to IP 2X
- High voltage warning labels are fitted to the cover and enclosure cover
- When using the enclosures at their full potential (i.e. 6.6 kV), high voltage cable termination kits have to be used to avoid breakdown of the cable long term

Certifications and Compliances:

(Ex) II 2 G Ex e II T6, T5, or T4 ATEX (Baseefa03ATEX0052X) Ex'e' II T4 200A, T5 180A, T6160A



UL50/C22.2 No. 94-M91 mild steel: Types 3S, 4; stainless steel: Type 4X

Specifications:

Description	Туре	Specification
Material	HVB 463820 HVB 765120, 916120 Gland Plates	Stainless steel grades: standard is 316L (1.4401) & 304 on request (1.4301) or sheet steel
Finish		Painted RAL 7032 Stainless Bright Chemical Dip (polished appearance)
Gasket		Neoprene (cover & gland plates)
Cover Mounting		Fully detachable hinged cover with 4 or 6 x M6 hexagon head captive screws
Grounding		M10 internal/external stud M14 internal/external stud for 5.91in² phase conductor only
Box Mounting		4 x external lugs with 0.39" clearance holes/slots
Ingress Protection		IP66 & IP67 to IEC 529
Temperature Range		-4°F to 104°F (ambient)
Impact Resistance		7 J (Nm)
Gland Plates		Top & Bottom
Ratings	Voltage	6.6 kV 50Hz* ac 3 phase (grounded or ungrounded supply systems)

^{*}At frequencies above 50 Hz, current carrying capacities may require derating (e.g. motor variable speed controllers).

Maximum Current Rating (Amps):

To allow American Wire Gauge (AWG) cables and current ratings for T6 to T4 temperature classes.

Conductor Size	(10-0-)	Current A		
AWG (max. 5.91in²)	T6 (185°F)	T5 (212°F)	T4 (275°F)	
6	42	59	65	
4	55	80	88	
3	64	92	102	
2	73	107	118	
1	81	121	134	
1/0	101	141	156	
2/0	150	173	192	
3/0	160	180	200	

Maximum Wiring Space for HV Cable Termination Kits:

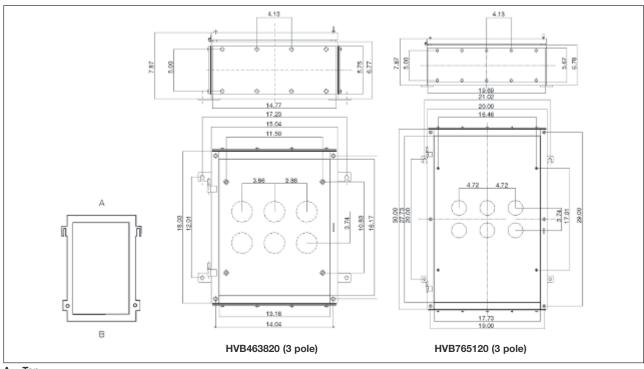
Enclosure Type	Distance Between Bolt & Gland Plate
HVB 463820	7.09"
HVB 765120	13.19"
HVB 916126	16.14"

Connections:

3 or 4 pole, consists of 6 or 8 post insulators with 0.24" brass busbars, tin lead plated. Cable alignment restrictors prevent misalignment of the conductors. Accepts standard cable lugs up to 1.18" wide and an M12 hole.

Dimensions

In Inches:



A = Top

B = Bottom

For dimensions marked with a * subtract 1.18" for 2 gland plate versions.

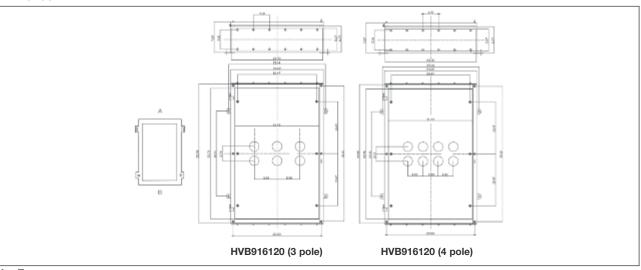
		HVB46382	0 (3 pole)	HVB76512	20 (3 pole)		
		Height Width Depth Weight	18.03" 15.04" 7.87" 52.36 lb	Height Width Depth Weight	30" 20" 7.87" 81.57 lb		
Ordering Data:							
Туре	Description	Cat. #		Cat. #			
M10 Ground Stud Phase Conductor 4.72in² Max.	Standard Paint Finish Stainless Steel Finish	HVBPS46 HVBS146		HVBPS76 HVBS176			
M14 Ground Stud Phase Conductor 5.91in² Only	Standard Paint Finish Stainless Steel Finish	HVBPS46 HVBS1463			HVBPS765120M14 HVBS1765120M14		
Guide to Gland E	ntries:						
Description		HVB46382 Side	0 Size	HVB76512 Side	20 Size		
Max. Gland Area Dimension	ns	A + B	13.27" x 4.25"	A + B	18.27" x 4.25"		
Gland Sizes (mm) Brass (Per Plate):							
Size		HVB46382	0	HVB76512	HVB765120		
40		6		8	8		
50		4		6	6		
63		3		4	4		
75		3		4			

2E

Sheet or Stainless Steel High Voltage Enclosures Ordering Information

Dimensions

In Inches:



A = Top

B = Bottom

For dimensions marked with a * subtract 1.18" for 2 gland plate versions.

	o .					
		HVB916120	(3 pole)	HVB916120	(4 pole)	
		Height Width Depth Weight	35.98" 24.20" 7.87" 99.21 lb	Height Width Depth Weight	35.98" 24.02" 7.87" 103.62 lb	
Ordering Data:						
Туре	Description	Cat. #		Cat. #		
M10 Ground Stud Phase Conductor 4.72in ² Max.	Standard Paint Finish Stainless Steel Finish	HVBPS9161 HVBS19161		HVBPS9161 HVBS19161		
M14 Ground Stud Phase Conductor 5.91in² Only	Standard Paint Finish Stainless Steel Finish	HVBPS916120M14 HVBS1916120M14		HVBPS9161 HVBS19161		
Guide to Gland E	ntries:					
Description		HVB916120 Side) (3 pole) Size	HVB916120 Side	(4 pole) Size	
Max. Gland Area Dimensio	ns	A + B	22.28" x 4.25"	A + B	22.28" x 4.25"	
Gland Sizes (mm)	Gland Sizes (mm) Brass (Per Plate):					
Size		HVB916120	(3 pole)	HVB916120	(4 pole)	
40		8		8		
50		7		7		
63		5	·	5		
75		4		4		

KBX Die Cast Aluminum Enclosures

ATEX: II 2 G Ex e II UL Listed NEMA 4 IP66 T6

Applications:

- The KBX range of Ex e enclosures offers good resistance to industrial, marine, and other arduous environments
- Suitable for a wide range of applications including terminal junction boxes, housings for switches, pushbuttons, indicator lights, etc.

Features:

- Enclosure mounting holes located outside sealing area, thus not impacting IP integrity
- Equipment mounting via threaded holes suitable for mounting plate or DIN rail

Certifications and Compliances:

- ATEX: II 2 G Ex e II
- UL50, UL508
- NEMA 4
- IP66 minimum
- Temperature range: -50°C to +80°C

Standard Finish:

• Natural or powder coated

Ordering Information:

	Dimensions (mm)	
Cat. #	(h x w x d)	Certification
KBX050503	50 x 45 x 32	ATEX/UL
KBX060605	66 x 60 x 46	ATEX/UL
KBX061005	100 x 66 x 46	ATEX/UL
KBX061505	152 x 66 x 46	ATEX/UL
KBX080806	82 x 77 x 57	ATEX/UL
KBX081306	127 x 81 x 57	ATEX/UL
KBX081806	177 x 81 x 57	ATEX/UL
KBX082506	252 x 81 x 57	ATEX/UL
KBX121208	125 x 124 x 81	ATEX/UL
KBX122208	222 x 125 x 81	ATEX/UL
KBX123608	362 x 125 x 91	ATEX/UL
KBX161609	136 x 162 x 91	ATEX/UL
KBX162609	263 x 162 x 91	ATEX/UL
KBX163609	354 x 162 x 91	UL ONLY
KBX165609	564 x 162 x 91	UL ONLY
KBX232011	234 x 204 x 111	UL ONLY
KBX232018	230 x 200 x 180	UL ONLY
KBX232811	284 x 234 x 111	UL ONLY
KBX233311	330 x 230 x 110	UL ONLY
KBX233318	330 x 230 x 180	UL ONLY
KBX234011	410 x 230 x 110	UL ONLY
KBX236011	600 x 230 x 110	UL ONLY
KBX314011	404 x 316 x 111	UL ONLY
KBX314018	402 x 310 x 180	UL ONLY
KBX316011	600 x 310 x 110	UL ONLY
KBX316018	600 x 310 x 180	UL ONLY



Applications:

- The TBX range is an ATEX certified steel and stainless steel junction box solution fully compliant with the impact, UV, thermal, and ingress protection requirements for hazardous locations
- · Available in a wide range of sizes to meet a diverse range of applications; ideal for electrical and instrumentation applications
- Using the highest quality materials, design benefits, and precision manufacturing, the TBX range is the benchmark for quality and performance in steel enclosures
- The standard depths of 150mm and 200mm can also be extended to 300mm deep (available upon request)
- The stainless steel versions are suitable for salt laden atmospheres and harsh environmental conditions

Features:

- The retained stainless steel slotted hex bolt fastenings with door retaining hinges provide a rapid means of achieving high integrity ingress protection (IP) of 66 for reliable and rapid environmental protection
- The high integrity "single piece" sealing gasket for superior ingress protection (IP) of 66 and excellent recovery and re-sealing properties for continuous environmental protection
- An integral drainage channel prevents liquids or other solid contaminants from running in or falling into the enclosure when the door is opened, and to minimize gasket path contamination
- An integral external and internal feed-through brass earth/ground stud assembly enables rapid and reliable protective earth/ground connection mounted on the side of the enclosure for ease of access
- External hinge allows cover to be opened 180°
- · Heavy duty welded mounting lugs

Certifications and Compliances:

Component Certified:

- II 2 G Ex e II T4 ATEX (BAS01ATEX2208U)
- AEx Class I, Zone 1, AEx e IIC, T6

Certification of Conformity: BAS01ATEX2207X

- 🗓 II 2 G Ex e II T6 or T5
- 🗓 II 1 G Ex ia II T6 or T5
- 🗓 II 2 G Ex e [ia] II T6 or T5

Industrial Control Panel:

cULus to UL50 / C22.2 No. 94-M91, Types 3S, 4, 4X



Typical TBX assembled and certified for hazardous areas



Gland entries and assembly services available - contact factory for options and customization services

Technical Specifications:

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Туре	Description
Material	Stainless steel grades: 316L (1.4401) standard; 304 (1.4301) available on request, or sheet steel
Material Thickness	1.5mm for TBX 231523 - 484815 2.0mm for TBX 765015 - 916120 3.0mm for all gland plates
Finish	Stainless steel - electro-chemical polish Sheet steel - powder polyester gray RAL 7032
Gasket Material	Neoprene closed cell sponge
Door Fastening	Lift off external hinged door with 180° opening, all stainless steel and captive hex fastening screws; padlock hasp fitted as standard
Enclosure Mounting	4 x external 3mm thick welded lugs, 11mm Ø holes/slots
Equipment Mounting	4 x stand off pillars Ø 9mm, 25mm high, tapped M6 x 10
Enclosure Earth	M10 external/internal brass earth stud assembly; M6 internal stud on door and painted gland plates
Ingress Protection Rating	IP66
Temperature Range	Standard: -20°C to +80°C (neoprene gasket material)
Impact Resistance	7 J (Nm)

Sheet or Stainless Steel

Ordering Information:

-	Material	No. of Gland	Dimensions mm (In.)	Vertical Fixing Center	Horizontal Fixing Center (0, 1, & 2 Gland Plate	Horizontal Fixing Center (3 & 4 Gland Plate	Weight	Olavel Avec
Cat. #	Material	Plates	(h x w x d)	(mm)	Version)	Version)	(kg)	Gland Area
TBXPS2315131 TBXPS2315133 TBXS12315131 TBXS12315133	Painted Steel Painted Steel 316L Stainless Steel 316L Stainless Steel	1 3 1 3	229 x 152 x 127 (9" x 6" x 5")	152	178	208	4.00	Top & Bottom: 108 x 58 Left & Right:
TBXS22315131 TBXS22315133	304 Stainless Steel 304 Stainless Steel	1 3						108 x 58
TBXPS3131151 TBXPS3131153	Painted Steel Painted Steel	1 3						Top & Bottom: 261 x 80
TBXS13131151 TBXS13131153 TBXS23131151	316L Stainless Steel 316L Stainless Steel 304 Stainless Steel	1 3 1	306 x 306 x 150 (12" x 12" x 6")	203	331	361	7.00	Left & Right: 156 x 80
TBXS23131153 TBXPS4638151	304 Stainless Steel Painted Steel	3						Top & Bottom:
TBXPS4638153 TBXS14638151 TBXS14638153	Painted Steel 316L Stainless Steel 316L Stainless Steel	3 1 3	458 x 382 x 150 (18" x 15" x 6")	305	407	437	10.00	337 x 80
TBXS24638151 TBXS24638153	304 Stainless Steel 304 Stainless Steel	1 3	(10 11 12 11 2)					Left & Right: 337 x 80
TBXPS4848151 TBXPS4848153 TBXS14848151	Painted Steel Painted Steel 316L Stainless Steel	1 3 1	480 x 480 x 150	327	505	535	11.00	Top & Bottom: 337 x 80
TBXS14848153 TBXS24848151 TBXS24848153	316L Stainless Steel 304 Stainless Steel 304 Stainless Steel	3 1 3	(19" x 19" x 6")	321	303	555	11.00	Left & Right: 337 x 80
TBXPS7651151 TBXPS7651153 TBXS17651151	Painted Steel Painted Steel 316L Stainless Steel	1 3 1	762 x 508 x 150					Top & Bottom: 464 x 80
TBXS17651153 TBXS27651151 TBXS27651153	316L Stainless Steel 304 Stainless Steel 304 Stainless Steel	3 1 3	(30" x 20" x 6")	508	534	564	24.00	Left & Right: 464 x 80
TBXPS3131201 TBXPS3131203 TBXS13131201 TBXS13131201 TBXS13131203 TBXS23131201 TBXS23131203	Painted Steel Painted Steel 316L Stainless Steel 316L Stainless Steel 304 Stainless Steel 304 Stainless Steel	1 3 1 3 1 3	306 x 306 x 200 (12" x 12" x 8")	203	331	361	7.35	Top & Bottom: 261 x 124 Left & Right: 156 x 108
TBXPS4638201 TBXPS4638203 TBXS14638201 TBXS14638203 TBXS24638201	Painted Steel Painted Steel 316L Stainless Steel 316L Stainless Steel 304 Stainless Steel	1 3 1 3 1	458 x 382 x 200 (18" x 15" x 8")	305	407	437	10.50	Top & Bottom: 337 x 124 Left & Right: 337 x 124
TBXS24638203 TBXPS4848201 TBXPS4848203 TBXS14848201 TBXS14848203	304 Stainless Steel Painted Steel Painted Steel 316L Stainless Steel 316L Stainless Steel	3 1 3 1 3	480 x 480 x 200 (18.9" x 18.9" x 8")	327	505	535	11.55	Top & Bottom: 337 x 124 Left & Right:
TBXS24848201 TBXS24848203 TBXPS7651201	304 Stainless Steel 304 Stainless Steel Painted Steel	1 3 1						337 x 124
TBXPS7651203 TBXS17651201 TBXS17651203 TBXS27651201 TBXS27651203	Painted Steel 316L Stainless Steel 316L Stainless Steel 304 Stainless Steel 304 Stainless Steel	3 1 3 1 3	762 x 508 x 200 (30" x 20" x 8")	508	534	564	25.20	Top & Bottom: 464 x 108 Left & Right: 464 x 108
TBXPS9161201 TBXPS9161203 TBXS19161201 TBXS19161203 TBXS29161201 TBXS29161203		1 3 1 3 1 3	914 x 610 x 200 (36" x 24" x 8")	559	636	666	31.00	Top & Bottom: 566 x 108 Left & Right: 566 x 108
Crouse-Hi		ww.crouse-h	ninds.com US: 1-866-764-	5454 CAN:	1-800-265-0502	Copyright® 2013	Eaton's Crous	e-Hinds Business

Sheet or Stainless Steel

Dimensions: Width Door removed for clarity Hinged on left side 6 lid fixing screws Fixing Centres (Vertical) used on sizes TB13 and TB14 0 0 Fixing Centres (Horizontal) Depth



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Hazardous Applications

Description	Page No.
GHG74 Series	see pages 790–792
KESTREL Series	see pages 793–797
TBF / TBP Series	see pages 800-804

3E

Explosion Protected Terminal Boxes

Series GHG 744, 745, 746, 749

UL/cUL Listed
CI. I, Div. 2, Groups A, B, C, D
CI. I, Zones 1 & 2, AEx de IIB + H₂, T6
CI. II, Div. 1, Groups E, F, G (cUL)
ATEX Certified
IECEx
CEPEL Certified

Ex de IIC, T6, Zones 1 & 2 Ex de IIC, T6 Zones 21 & 22 IP66, NEMA 4X GOST-R GOST-K

Applications:

Explosion protected terminal boxes are used in a metallic conduit or cable system for a marshalling cabinet between main circuits to the control room and branch circuits into the field.

- Junction boxes for intrinsically safe or increased safety connections
- Are designed for industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals and finishing areas where nonmetallic, weatherproof enclosures

Features:

- Enclosures can be mounted on walls, conduits or strut systems
- · Connection terminals accessible from all sides
- · Snap-out brass plates for metallic entry and grounding continuity
- Snap-out terminal rails
- Clip-in grounding PE rail
- Different sizes to accommodate any number of terminal connections

Certifications and Compliances:

- UL/cUL Listed
- Class I, Division 2, Groups A, B, C, D
- Class I, Zones 1 and 2, (A)Ex de IIB+H2, T6
- Class II, Division 1, Groups E, F, G (cUL)
- ATEX Certified
- Ex de IIC, T6, Zones 1 and 2
- Ex de IIC, T6, Zones 21 and 22
- IP66, NEMA 4X
- GOST-R and GOST-K

Standard Materials:

- Fiberglass-reinforced polyester housings
- Enclosure gasket silicone
- Cover screws stainless steel
- Metal entry plates brass
- Conduit entries zinc Myers hubs

Technical Data:

- Suitable from 1 to 296 terminal blocks (2.5mm²)
- Suitable for up to 90 3/4" hubs (largest size)
- Suitable for up to 72 3/4" metallic hubs
- Suitable for use as control panels
- Ex-e boxes and brass flanges can be field drilled



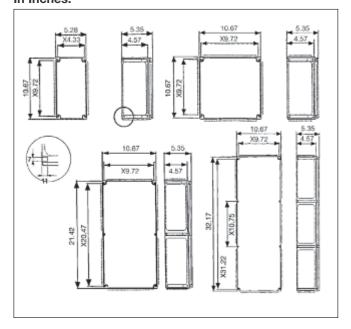
Ordering Data:

Contact factory for catalog numbers and pricing.

Have the following information ready -

- Number and size of terminals (Table 1)
- Number, size and location of entries (Tables 2 and 3)
- Required ground points (Table 4) Eaton's Crouse-Hinds will provide you with an extended list

Dimensions In Inches:



Explosion Protected Terminal Boxes

Series GHG 744, 745, 746, 749

UL/cUL Listed Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zones 1 & 2, AEx de IIB + H₂, T6 Cl. IÍ, Div. 1, Groups E, F, G (cUL) ATEX Certified **IECEx CEPEL Certified**

Ex de IIC, T6, Zones 1 & 2 Ex de IIC, T6 Zones 21 & 22 IP66, NEMA 4X GOST-R GOST-K

Panel and Side Designation:

The sides of the enclosures are designated as W, X, Y and Z alphabetically in a clockwise rotation.

The narrow sides are always W and Y and the long sides are X and Z.

Dimensions

In Inches:

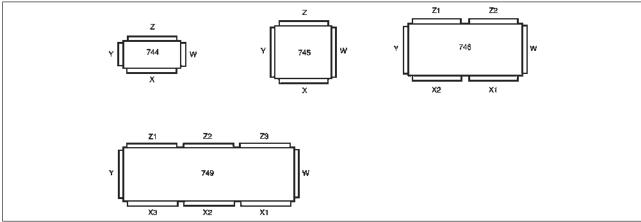


Table 1 Maximum Number of Built-in Terminals Supplied with Enclosure

	Terminal cross section in min							
Туре	2.5	4	6	10	16	25	35	Length of terminal rail
GHG 744	39	33	33	33	17	13	_	(1) 230 mm
GHG 745	2 x 40	2 x 33	2 x 39	2 x 33	40	30	20	(2) 235 mm
GHG 746	2 x 94	2 x 78	2 x 78	2 x 35	2 x 45	2 x 34	2 x 32	(2) 510 mm
GHG 749	2 x 148	2 x 124	2 x 94	2 x 75	2 x 63	2 x 63	2 x 51	(2) 795 mm

Table 2 Flance Arrangement for Each Enclosure

Enclosure	744	745	746	749
Removable Flanges	2 total 1 - top and bottom	4 total 1 per side	6 total 2 top and bottom 1 each side	8 total 3 top and bottom 1 each side
Covers*	Shallow	Deep or shallow	Deep or shallow	Shallow
# of DIN rails	1	1 or 2	1, 2, or 4	1, 2, or 6

Table 3 Maximum Number of Glands Per Side

maximum realissor or elarido i or oldo									
Туре	Side	M12	M16	M20	M25	M32	M40	M50	M63
NPT equivalent				1/211	3/411	1"	11/4"	1 ½"	2"
GHG 744	X/Z	60	36	26	18	10	7	4	3
GHG 745	X/Z	60	36	26	18	10	7	4	3
GHG 746	X/Z	120	72	52	36	20	14	8	6
GHG 749	X/Z	180	108	78	54	30	21	12	9
# of glands/flange†		46	25	20	11	8	4	3	2
# of Myers hubs/flange†			_	10	9	6	3	3	2

[†] If flanges are used, fewer glands can be installed. See Table 1 for flange arrangement. Example: In the GHG 745 box a maximum of (10) ½" Myers hubs can be installed on each brass flange plates. Each side will take one brass flange for a total of (40) ½" Myers hubs.

^{*}The shallow cover is standard for terminal boxes. The deep cover is used when mounting larger sized terminal (>95 mm²) or switches for 80 amps and larger.

3E

Explosion Protected Terminal Boxes

Series GHG 744, 745, 746, 749

UL/cUL Listed
Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zones 1 & 2, AEx de IIB + H₂, T6
Cl. II, Div. 1, Groups E, F, G (cUL)
ATEX Certified
IECEX

Ex de IIC, T6, Zones 1 & 2 Ex de IIC, T6 Zones 21 & 22 IP66, NEMA 4X GOST-R GOST-K

Ground Rails:

- Used to connect ground points to common ground
- PE "potential earth" European designation
- Designated by 3 number ordering code (see Table 4)

Table 4

Explanation of 14 x 2 x 4 mm²

Number	Meaning	Example
1 st	Number of screw terminals	14 screw terminals on strip
2 nd	# wires that can be connected on each terminal	2 ground wires can be connected
3^{rd}	Maximum conductor diameter	4 mm ² conductors can be terminated on the ground rail (28 total, 14 terminals; 2 wires per terminal)

CEPEL Certified

Use Table 5 as a conversion from AWG to mm²

Table 5 Equivalent of AWG Conductor to mm²

Area mm²
2.08
3.31
5.26
8.37
13.3
21.15
26.66
33.63
42.41
53.51
67.44
85.03
107.22

GOST-K

GOST-R

Kestrel Series

Features/Applications:

- The Kestrel series of glass reinforced polyester enclosures available in seventeen sizes in black and gray, provide a high quality maintenance free solution for intermediate electrical junctions.
- Where corrosion resistance, impact strength or ingress protection are key factors the Kestrel series is highly recommended.
- Black Kestrel "PKE" series
- Gray Kestrel "POK" series

Certifications and Compliances:

PKE (black) and POK (gray) sizes: 080806, 081106, 081606, 081906, 121309, 122210, 161610, 162610, 163610, 252613, 254013, 256013, 414013 Enclosure with terminals Ex e II T5 or T6 to EN 60079-7

Certificate of Conformity:
PKE: 94C. 102.961
POK: 94C. 102.962X

Empty enclosure Ex e II to EN 60079-7 Component Certificate:

Component Certificate: PKE: 93C. 102.959U POK: 93C. 102.960U

Other enclosures: Industrial applications



Specifications

	Glassfiber reinforced polyester (GRP)		
РОК	≥1G Ohm		
PKE	≤1G Ohm		
Type PKE	Black, similar to RAL 9001		
Type POK	Grey, similar to RAL 7001		
	Silicone rubber		
Sizes 080806, 081106, 081606, 081906	4 x M4 captive stainless steel screws		
Sizes 082306	6 x M4 captive stainless steel screws		
Sizes 165610, 256013	6 x M6 captive stainless steel screws		
All other sizes	4 x M6 captive stainless steel screws		
Sizes 080806, 081106, 081606, 081906, 082306	4 x mounting holes for M4 screws		
All other sizes	4 x mounting holes for M6 screws		
Sizes 080806 + 081106	Brass mounting studs for M3 screws		
Sizes 081606, 081906, 082306	Brass mounting studs for M4 screws		
All other sizes	Brass mounting studs for M6 screws		
All sizes	IP68 to IEC 529 (EN 60529) (4.92ft/ 1 hour)		
	-4°F to 131°F (ambient)		
	7J(Nm)		
	Halogens and cadmium free		
All sizes	Spec. No. ATS01 (excluding size 165610 and 256013)		
	Type PKE Type POK Sizes 080806, 081106, 081606, 081906 Sizes 082306 Sizes 165610, 256013 All other sizes Sizes 080806, 081106, 081606, 081906, 082306 All other sizes Sizes 080806 + 081106 Sizes 081606, 081906, 082306 All other sizes All sizes		

Options:

Assembly Grounding **EMC**

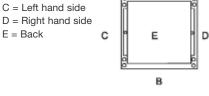
Terminals, Myers Hubs and cable glands fitted to specification.

One piece or single brass continuity plate M6/M10 internal/external ground stud.

The PKE series can be treated to provide shielding against electromagnetic interference.

A = TopB = Bottom

C = Left hand side



Size 080806

Size 081106

Black – Kestrel "PKE" Series Gray – Kestrel "POK" Series

Height 2.95" 3.15" Width 2.36" Depth Weight 12 oz Height 2.95" 4.33" Width Depth 2.36" Weight 14 oz

Ordering Data

Black (GRP) Gray (GRP)

Cat. # PKEPE080806 POKPE080806

Cat. # PKEPE081106 POKPE081106

Guide to gland entries (Reference only)

Max. gland area dimensions through wall or enclosure.

Sides	Size
A + B	1.97" x 1.46"
C + D	1.14" x 1.26"

Sides	Size
A + B	3.15" x 1.46"
C + D	1.14" x 1.26"

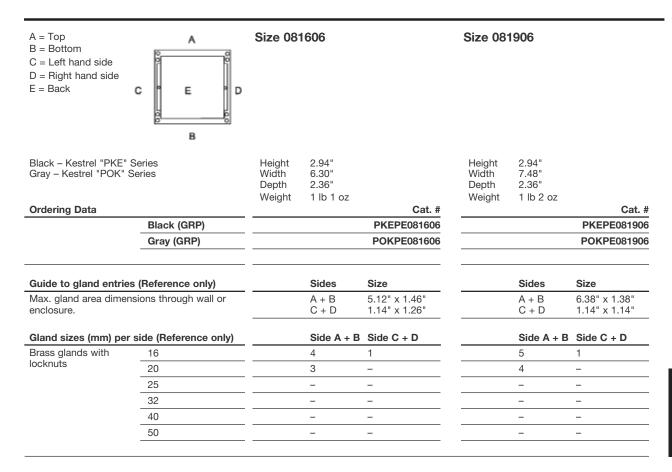
Gland sizes (mm) per side (Reference only)

Brass glands with locknuts

16		
20		
25		
32		
40		
50		

 Side A + B	Side C + D
1	1
1	_
_	_
 _	_
_	_
_	_

Side A + B	Side C + D
2	1
2	_
_	_
_	-
_	_
_	_



Size 121309

Size 122210

Height Width Depth Weight	4.72" 4.92" 3.54" 1 lb 8 oz	Cat. #	Height Width Depth Weight		4.72" 8.66" 3.74" 2 lb 5 oz	Cat. #
		PKEPE121309				PKEPE122210
		POKPE121309				POKPE122210
	Sides	Size			Sides	Size
	A + B C + D	3.46" x 2.32" 2.36" x 2.01"			A + B C + D	7.16" x 2.48" 2.36" x 2.24"
	Side A + B	Side C + D		5	Side A + B	Side C + D
	4	2		-	12	3
	2	1		5	5	1
	1	1		4	1	1
	1	_		3	3	1
	_	_		-	-	_
	-	-		-	-	_

A = Top B = Bottom C = Left hand side D = Right hand side E = Back	A D B	Size 161	610		Size 162	2610	
Black - Kestrel "PKE Gray - Kestrel "POK" Ordering Data	" Series	Height Width Depth Weight	6.30" 6.30" 3.74" 2 lb 14 oz	Cat.#	Height Width Depth Weight	6.30" 10.24" 3.74" 3 lb 12 oz	Cat. #
Supplied with Black (GRP)				PKEPE161610			PKEPE162610
	Gray (GRP)			POKPE161610			POKPE162610
Guide to gland entri	es (Reference only)		Sides	Size		Sides	Size
Max. gland area dime wall or enclosure.	ensions through		A + B C + D	4.49" x 2.56" 3.31" x 2.32"		A + B C + D	8.42" x 2.56" 3.31" x 2.32"
Gland sizes (mm) pe	er side (Reference only)		Side A + B	Side C + D		Side A + B	Side C + D
Brass glands with	16		6	4		14	4
locknuts	20		3	2		6	2
	25		2	1		4	1
	32		2	1		3	1
	40		1	_		3	_
	50		_	_		_	_

Size 163610 Size 165610 Size 252613

Height Width Depth Weight	6.30" 14.17" 3.74" 4 lb 7 oz		Height Width Depth Weight	6.30" 22.05" 3.74" 8 lb 2 oz		Height Width Depth Weight	9.84" 10.03" 4.92" 5 lb 13 oz	
		Cat. #			Cat. #			Cat. #
		PKEPE163610			PKEPE165610			PKEPE252613
		POKPE163610			POKPE165610			POKPE252613
	Sides	Size		Sides	Size		Sides	Size
	A + B C + D	12.36" x 2.56" 3.31" x 2.32"		A + B C + D	2 (9.41" x 2.56") 3.31" x 2.32"		A + B C + D	8.23" x 3.58" 6.85" x 3.39"
	Side A + B	Side C + D		Side A + B	Side C + D		Side A + B	Side C + D
	20	4		32	4		21	15
-	10	2		14	2		10	8
	7	1		10	1		8	6
	5	1		8	1		4	3
	4	_		6	_		3	2
	-	_		-	_		2	2

40

50

8

6

2

2

Size 254013 Size 256013 Α A = TopB = Bottom C = Left hand side D = Right hand side С D E = Back Black – Kestrel "PKE" Series Gray – Kestrel "POK" Series 9.84" 15.75" 4.92" Height Width 9.84" Height 23.62" 4.92" Width Depth Depth Weight 10 lb Weight 12 lb 12 oz **Ordering Data** Cat. # Cat. # Black (GRP) PKEPE254013 PKEPE256013 Supplied with POKPE254013 POKPE256013 Gray (GRP) Guide to gland entries (Reference only) Sides Size Sides Size Max. gland area dimensions through wall or 13.94" x 3.58" 6.85" x 3.87" 2 (10.31" x 3.58") 6.77" x 3.38" A + B A + B C + D enclosure. C + DGland sizes (mm) per side (Reference only) Side A + B Side C + D Side A + B Side C + D Brass glands with 33 15 15 locknuts 20 18 8 24 8 25 14 6 6 32 7 3 10 3

5

4

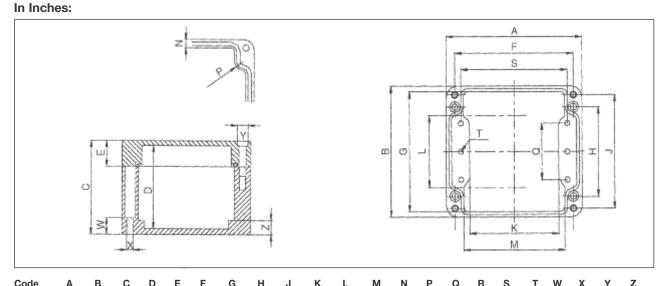
2

2

Height Width Depth Weight	15.95" 15.75" 4.92" 12 lb 9 oz	Cat. #	Height Width Depth Weight	9.84" 10.04" 6.50" 8 lb 8 oz	Cat. #	Height Width Depth Weight	9.84" 15.75" 6.50" 11 lb 2oz	Cat. #
		PKEPE414013			PKEPE252617			PKEPE254017
		POKPE414013			POKPE252617			POKPE254017
	Sides	Size		Sides	Size		Sides	Size
	A + B C + D	13.94" x 3.58" 12.95" x 3.39"		A + B C + D	8.23" x 3.58" 6.85" x 3.39"		A + B C + D	13.94" x 3.58" 6.85" x 3.39"
	Side A + B	Side C + D		Side A + B	Side C + D		Side A + B	Side C + D
	33	30		21	15		33	15
	18	16		10	8		18	8
	14	13		8	6		14	6
	7	6		4	3		7	3
	5	4		3	2		5	2
	4	4		2	2		4	2

Mounting plates	Туре	Cat. #	Туре	Cat. #	
Mounting plates for the PKE, POK	080806	POKZTMP0808	163610	POKZTMP1636	
series of enclosures manufactured from	081106	POKZTMP0811	165610	POKZTMP1656	
2mm zinc coated sheet steel.	081606	POKZTMP0816	252613	POKZTMP2526	
	081906	POKZTMP0819	254013	POKZTMP2540	
	082306	POKZTMP0823	256013	POKZTMP2560	
	121309	POKZTMP1213	414013	POKZTMP4140	
	122210	POKZTMP1222	252617	POKZTMP2526	
	161610	POKZTMP1616	254017	POKZTMP2540	
Ground continuity plates	162610 Type	POKZTMP1626 Cat. #	Туре	Cat. #	
Internal continuity plates manufactured	080806	POKBSECC1	163610	POKBSECC7	
from 0.05" brass, may be used for	081106	POKBSECC2	165610	POKBSECC71	
bonding cable glands in any of the four	081606	POKBSECC3	252613	POKBSECC8	
enclosure	081906	POKBSECC31	254013	POKBSECC9	
faces.	082306	POKBSECC32	256013	POKBSECC91	
14003.	121309	POKBSECC4	414013	POKBSECC10	
	122210	POKBSECC5	252617	POKBSECC8	
	161610	POKBSECC51	254017	POKBSECC9	
	162610	POKBSECC6			
3 mm single brass ground plates	Type (long side)	Cat. #	Type (short side)	Cat. #	
Manufactured from 0.19" brass for fitting	121309	POKBSECP4L	121309	POKBSECP4S	
along sides of enclosure.	122210	POKBSECP5L	122210	POKBSECP5S	
	162610	POKBSECP6L	162610	POKBSECP6S	
	163610	POKBSECP7L	163610	POKBSECP7S	
	252613 / 252617	POKBSECP8L	252613 / 252617	POKBSECP8S	
	254013 / 254017	POKBSECP9L	254013 / 254017	POKBSECP9S	
	414013	POKBSECP9L	414013	POKBSECP10S	
	161610	POKBSECP51L	161610	POKBSECP51S	
	165610 (4 off per box)	POKBSECP71L	165610	POKBSECP71S	
	256013 (4 off per box)	POKBSECP91L	256013	POKBSECP91S	
Ground bar	Туре	Cat. #	No. of Poles	(Vert. bar) Cat. #	No. of Poles
12 x 0.08" zinc plated steel bar complete	121309	KBXERHK41	4	KBXERVK41	2
with cable clamps having locking tongue	122210	KBXERHK51	6	KBXERVK41	2
which locates in the bar. Bars are secured	161610	KBXERHK52	6	KBXERVK52	4
to base of enclosure either directly to the	162610	KBXERHK61	8	KBXERVK52	4
brass inserts or pillars fitted to brass	163610	POKERH7	8	KBXERVK52	4
inserts.	165610	POKERH71	8	KBXERVK52	4
	252613	KBXERVK81	8	KBXERVK8	6
	254013	KBXERHK81	12	KBXERVK8	6
	256013	POKERH91	12	KBXERVK8	6
	414013	KBXERHK81	12	KBXERHK71	8
	252617	KBXERVK81	8	KBXERVK8	6
Stand off pillars	254017 Type	KBXERHK81 Cat. #	12 Height	KBXERVK8	6
Plated mild steel, supplied in packs of 2.					
Not suitable for enclosure sizes 080806, 081106, 081606, 081906 or 082306.	HR 15 HR 30	ACCSOP15 ACCSOP30	0.59" 1.18"		
Ground pillar kit		Cat. #			
Brass nickel plated grounding kits comprising of 1 ground bar and 2 pillars. Provide additional grounding facilities within enclosure. Suitable for enclosure sizes 080806, 081106, 081906 + 082306 only.		POKBSEPKIT			
Ground studs	Туре	Cat. #			
Ground states	M6 Brass M6 Stainless steel M10 Brass M10 Stainless steel	ACCBSES M6 KIT ACCS1ESM6KIT ACCBSES M10 KIT ACCS1ESM10KIT			
Mounting feet	Туре	Cat. #	Size		
Supplied in sets of 4. Complete with	MF5	POKMFKIT5		, 081106, 081606, 0	081906. 0823
mounting screws.	MF6	POKMF KIT6	Large & all other s		,

Dimensions



PKE080806 3.15 2.95 2.40 2.01 0.83 2.68 2.48 1.77 2.56 1.97 1.30 2.21 0.32 0.34 N/A N/A 2.36 M4 0.32 0.18 0.32 0.35 PKE081106 4.33 2.95 2.40 2.01 0.83 3.86 2.48 1.77 2.56 3.15 1.30 3.39 0.32 0.34 N/A N/A 3.54 M4 0.32 0.18 0.32 0.35 PKE081606 6.30 2.95 2.40 2.01 0.83 5.83 2.48 2.56 5.19 1.30 5.35 0.32 0.34 N/A N/A 5.47 M4 0.32 0.18 0.32 0.35 1.77 PKE081906 7.48 2.95 2.40 2.01 0.83 7.01 2.48 1.77 2.56 6.30 1.26 6.54 0.32 0.34 N/A N/A 6.65 M4 0.32 0.18 0.32 0.35 PKE082306 9.06 2.40 2.01 0.83 8.58 2.48 1.77 2.56 7.87 8.11 0.34 N/A 0.42 8.23 0.32 0.18 0.32 0.35 1.26 PKE121309 4.92 4.72 3.54 3.15 0.98 4.29 4.09 3.23 4.33 3.23 2.60 3.66 0.32 0.41 2.05 N/A 3.86 M6 0.61 0.18 0.41 0.43 PKE122210 8.66 7.60 4.72 3.74 3.35 3.23 4.33 7.40 0.37 0.41 2.05 N/A 1.08 8.03 4.09 6.97 2.60 M6 0.61 0.26 0.41 0.43 PKE161610 6.30 1.72 3.74 3.35 0.98 5.51 5.51 4.33 5.79 4.72 3.54 4.72 0.37 0.51 2.99 N/A 5.20 M6 0.79 0.26 0.47 N/A PKE162610 10.24 6.30 3.74 3.35 0.98 9.45 5.51 4.33 5.79 8.66 3.54 8.66 0.37 0.51 2.99 N/A 9.06 M6 0.79 0.26 0.47 N/A PKE163610 14.17 6.30 3.74 3.35 0.98 13.39 5.51 4.33 5.79 12.60 3.54 12.60 0.39 0.51 2.99 N/A 13.07 M6 0.79 0.26 0.47 N/A PKE165610 22.05 6.30 3.74 3.35 0.98 21.26 5.51 4.33 5.79 20.47 3.54 20.47 0.37 0.51 2.99 0.65 20.95 M6 0.79 0.26 0.47 N/A PKE252613 10.04 6.30 4.92 4.53 1.10 9.25 9.33 8.47 7.09 8.47 0.37 0.47 3.94 N/A 8.98 M6 0.79 0.26 9.06 7.87 0.47 N/A PKE254013 15.75 9.84 4.92 4.53 2.68 14.96 9.06 7.87 9.33 14.17 7.09 14.17 0.37 0.51 3.94 N/A 14.65 M6 0.79 0.26 0.47 N/A PKE256013 23.62 9.84 4.92 4.53 1.10 22.84 9.06 21.99 7.03 21.99 0.37 0.35 3.94 0.51 22.62 M6 0.79 0.26 0.47 N/A 7.87 9.33 PKE414013 15.75 15.95 4.92 4.53 1.10 14.96 15.16 13.98 15.43 14.17 13.19 14.17 0.37 0.35 9.76 N/A 14.72 M6 0.79 0.26 0.47 N/A PKE252617 10.04 9.84 6.50 6.10 2.68 9.26 9.06 7.87 9.33 8.47 7.09 8.47 0.37 0.51 3.94 N/A 8.98 M6 0.79 0.26 0.08 N/A **PKE254012** 15.75 9.84 6.50 6.10 2.68 14.96 9.06 7.87 9.33 14.17 7.09 14.17 0.37 0.51 3.94 N/A 14.65 M6 0.79 0.26 0.47 N/A

Dimension R: only appears on enclosures with 6 cover mounting screws, dimension is the radius of the center mounting screws

Features/Applications:

- The TBF and TBP series of enclosures are molded from a glassfiber polyester resin molding compound which is highly resistant to corrosion.
- Available in nine sizes with a minimum wall thickness of 3mm ensures they are suited to a wide range of applications such as control systems, meters, valves or instruments and are ideally suited for environments where weight is a prime consideration.

Approvals:

Enclosure with TBF 191514-606018

Ex e II T6 to EN 60079-7, (BS 5501: part 6) Certificate of Conformity: Ex 92C 3393X TBP 301918, 303018, 373018 & 603021

Ex e II T6 to BS 4683 part 4 Certificate of Assurance Ex 79255X

Empty enclosure

TBF 191514-606018 Ex e II T6 to EN 60079-7, (BS 5501: part 6) Component Certificate: 88B.102.698U TBP 301918, 303018, 373018 & 603021 Ex e II to BS 4683: part 4

Component Approval: 3032U



Specifications:

Material	TBF 191514 - 606018	Glassfiber reinforced polyester body and cover					
	TBP 301918 – 603021	Glassfiber reinforced polyester body, polycarbonate cover					
Gasket		Expanded polyurethane foam					
Cover mounting		4 or 6 captive square threaded nylon screws					
Box mounting		Integral 0.217" diameter hole External mounting lugs – optional					
Equipment mounting		4 or 6 x M4 threaded inserts					
	TBF 191514 – 606018	IP66/67 to IEC 529					
Ingress protection	TBP 301918 – 603021	IP66 to IEC 529					
Temperature range	TBF/TBP	–4°F to +203°F					
A b ! b	T5	-4°F to +104°F					
Ambient temperature	T6	–4°F to +140°F					
In a set of set	TBF 191514 – 606018	4 J (Nm) to EN 50014					
Impact resistance	TBP 301918 – 603021	7 J (Nm) to BS 4683: Part 4					
Flowershillt.	Glassfiber Reinforced Polyester	UL 94 HB					
Flammability	Polycarbonate	UL 94 V2					
Toxicity		No halogens					
Oxygen index		28% (ASTM - D2863 - 77)					
Surface resistivity		DIN 53482 – 12					

Options (consult factory):

Assembly Terminals, cable glands, Myers Hubs, locks fitted to specification.

Single brass continuity plates, ground studs. Grounding

A = Top B = Bottom C = Left hand side D = Right hand side	A Section A	TBF 191	514		TBF 301 TBP 301		
g	C 80 08 D		7.00			44.00"	
Outsian Bata		Height Width Depth Weight	7.32" 5.95" 5.47" 2.33 lb	0-1-1	Height Width Depth Weight	11.89" 7.32" 6.89" 3.86 lb.(T	BF) 3.12 lb (TBP)
Ordering Data Supplied with	Polyester cover	-		Cat. # TBFPE191514			Cat. # TBFPE301918
Supplied with	Clear polycarbonate cover			1511 2131314			TBPPE301918
Guide to gland enti	ries		Sides	Size		Sides	Size
Max. gland area dim	nensions		A + B C + D	3.94" x 2.76" 5.12" x 2.76"		A + B C + D	5.12" x 3.94" 9.84" x 3.94"
Gland sizes (mm) p	er side		Side A +	B Side C + D		Side A +	B Side C + D
Brass glands with	16		4	6		10	22
locknuts	20		2	4		6	13
	25		2	3		4	8
	32		-	1		3	5
	40		_	1		1	3
	50		_			1	2
A = Top B = Bottom		TBF 303	8018		TBF 373	3018	
C = Left hand side D = Right hand side	C 80 08 D	TBP 303	3018		TBP 37	3018	
C = Left hand side D = Right hand side	0 00	Height Width Depth Weight	11.89" 11.89" 6.89") 4.34 lb (TBP) Cat. #	Height Width Depth Weight	14.65" 11.89" 6.89"	TBF) 5.22 lb (TBP)
C = Left hand side D = Right hand side Ordering Data	C 80 080	Height Width Depth	11.89" 11.89" 6.89") 4.34 lb (TBP) Cat. # TBFPE303018	Height Width Depth	14.65" 11.89" 6.89"	TBF) 5.22 lb (TBP)
C = Left hand side D = Right hand side	C 80 08 0	Height Width Depth	11.89" 11.89" 6.89"	Cat. #	Height Width Depth	14.65" 11.89" 6.89"	Cat. #
C = Left hand side D = Right hand side Ordering Data	Polyester cover Clear polycarbonate cover	Height Width Depth	11.89" 11.89" 6.89"	Cat. # TBFPE303018	Height Width Depth	14.65" 11.89" 6.89"	Cat. # TBFPE373018
C = Left hand side D = Right hand side Ordering Data Supplied with	Polyester cover Clear polycarbonate cover	Height Width Depth	11.89" 11.89" 6.89" 5 lb (TBF	Cat. # TBFPE303018 TBPPE303018	Height Width Depth	14.65" 11.89" 6.89" 6.39 lb. (Cat. # TBFPE373018 TBPPE373018
C = Left hand side D = Right hand side Ordering Data Supplied with	Polyester cover Clear polycarbonate cover ries nensions	Height Width Depth	11.89" 11.89" 6.89" 5 lb (TBF Sides A + B C + D	Cat. # TBFPE303018 TBPPE303018 Size 9.84" x 3.94"	Height Width Depth	14.65" 11.89" 6.89" 6.39 lb. (Sides A + B C + D	Cat. # TBFPE373018 TBPPE373018 Size 9.84" x 3.94"
C = Left hand side D = Right hand side Ordering Data Supplied with Guide to gland ent Max. gland area din Gland sizes (mm) p Brass glands with	Polyester cover Clear polycarbonate cover ries nensions	Height Width Depth	11.89" 11.89" 6.89" 5 lb (TBF Sides A + B C + D	Cat. # TBFPE303018 TBPPE303018 Size 9.84" x 3.94" 9.84" x 3.94"	Height Width Depth	14.65" 11.89" 6.89" 6.39 lb. (Sides A + B C + D	Cat. # TBFPE373018 TBPPE373018 Size 9.84" x 3.94" 12.60" x 3.94"
C = Left hand side D = Right hand side Ordering Data Supplied with Guide to gland ent Max. gland area din Gland sizes (mm) p	Polyester cover Clear polycarbonate cover ries nensions per side	Height Width Depth	11.89" 11.89" 6.89" 5 lb (TBF Sides A + B C + D	Cat. # TBFPE303018 TBPPE303018 Size 9.84" x 3.94" 9.84" x 3.94" B Side C + D	Height Width Depth	14.65" 11.89" 6.89" 6.39 lb. (Sides A + B C + D	Cat. # TBFPE373018 TBPPE373018 Size 9.84" x 3.94" 12.60" x 3.94" B Side C + D
C = Left hand side D = Right hand side Ordering Data Supplied with Guide to gland ent Max. gland area din Gland sizes (mm) p Brass glands with	Polyester cover Clear polycarbonate cover ries nensions per side 16	Height Width Depth	11.89" 11.89" 6.89" 5 lb (TBF Sides A + B C + D Side A +	Cat. # TBFPE303018 TBPPE303018 Size 9.84" × 3.94" 9.84" × 3.94" B Side C + D 22	Height Width Depth	14.65" 11.89" 6.89" 6.39 lb. (Sides A + B C + D	Cat. # TBFPE373018 TBPPE373018 Size 9.84" × 3.94" 12.60" × 3.94" B Side C + D 28
C = Left hand side D = Right hand side Ordering Data Supplied with Guide to gland ent Max. gland area din Gland sizes (mm) p Brass glands with	Polyester cover Clear polycarbonate cover ries nensions per side 16 20	Height Width Depth	11.89" 11.89" 6.89" 5 lb (TBF Sides A + B C + D Side A +	Cat. # TBFPE303018 TBPPE303018 Size 9.84" x 3.94" 9.84" x 3.94" B Side C + D 22 13	Height Width Depth	14.65" 11.89" 6.89" 6.39 lb. (Sides A + B C + D Side A + 22	Cat. # TBFPE373018 TBPPE373018 Size 9.84" x 3.94" 12.60" x 3.94" B Side C + D 28 17
C = Left hand side D = Right hand side Ordering Data Supplied with Guide to gland ent Max. gland area din Gland sizes (mm) p Brass glands with	Polyester cover Clear polycarbonate cover ries nensions per side 16 20 25	Height Width Depth	11.89" 11.89" 6.89" 5 lb (TBF Sides A + B C + D Side A + 22 13	Cat. # TBFPE303018 TBPPE303018 Size 9.84" x 3.94" 9.84" x 3.94" B Side C + D 22 13 8	Height Width Depth	14.65" 11.89" 6.89" 6.39 lb. (Sides A + B C + D Side A + 22 13	Cat. # TBFPE373018 TBPPE373018 Size 9.84" x 3.94" 12.60" x 3.94" B Side C + D 28 17 11

TBF49	93018		TBF5630	018		TBF6030 ²		
Height Width Depth Weight	19.21" 11.89" 6.89" 8.29 lb	Cat.#	Height Width Depth Weight	21.97" 11.89" 6.89" 8.75 lb	Cat. #	Height Width Depth Weight	23.74" 11.89" 6.89 (TBF) 8 9.66 lb (TBF	.29 (TBP)) 8.60 lb (TBP) Cat. #
		TBFPE493018			TBFPE563018			TBFPE603018
								TBPPE603021
	Sides	Size		Sides	Size		Sides	Size
	A + B C + D	9.84" x 3.94" 17.17" x 3.94"		A + B C + D	9.84" x 3.94" 2 (8.94" x 3.94")		A + B C + D	9.84" x 3.94" 2 (9.84" x 3.94")
	Side A + B	Side C + D		Side A + B	Side C + D		Side A + B	Side C + D
	22	40		22	38		22	46
	13	24		13	24		13	26
	8	16		8	16		8	16
	5	11		5	10		5	10
	3	7		3	6		3	6
	2	5		2	4		2	4
						TDEOO	2010	

A = Top

B = Bottom

C = Left hand side

D = Right hand side

Ordering Data



TBF603718

TBF606018

Height Width Depth 23.74" Weight

14.65" 6.89" 11.79 lb

Height Width 23.74" 23.74" 6.89" Depth 16.31 lb Weight

4

Supplied with Polyester cover Clear polycarbonate

50

Cat. # TBFPE603718

TBFPE606018

Cat. #

Guide to gland entries Max. gland area dimensions		Sides	Size	Sides	Size
		A + B C + D	12.60" x 3.94" 2 (9.84" x 3.94")	A + B C + D	2 (9.84" x 3.94") 2 (9.84" x 3.94")
Gland sizes (mm) p	er side	Side A + B	Side C + D	Side A + B	Side C + D
Brass glands with	16	28	44	44	44
locknuts	20	17	26	26	26
	25	11	16	16	16
	32	7	10	16	16
	40	4	6	6	6

4

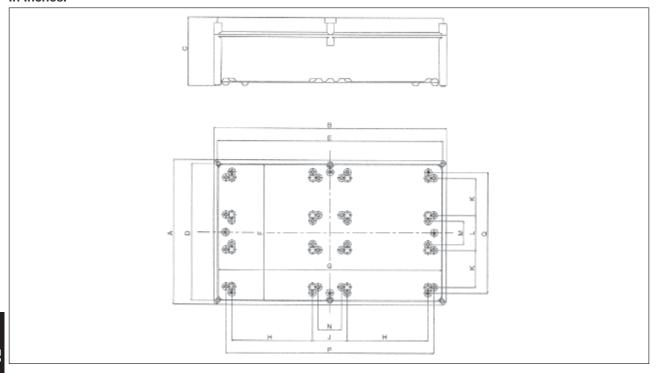
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4

Mounting plates	Туре		Cat. #	Туре	Cat. #
For equipment mounting, manufactured from galvanized steel.	TBF/TBP191514 TBF/TBP301918 TBF/TBP303018 TBF/TBP373018 TBF493018		TBFZTMP1915 TBFZTMP3019 TBFZTMP3030 TBFZTMP3730 TBFZTMP4930	TBF563018 TBF/TBP603018/21 TBF603718 TBF606018	TBFZTMP5630 TBFZTMP6030 TBFZTMP6030 TBFZTMP6060
3mm single brass ground plates	Туре	Side	Cat. #	Side	Cat. #
Ground continuity plates manufactured from 0.12" brass. Plates must be connected to the internal ground point of the enclosure.	TPF/TBP191514 TPF/TBP301918 TPF/TBP303018 TBF/TBP373018 TBF563018 TBF563018 TBF/TBP603018/21 TBF603718 TBF606018	C+D C+D C+D C+D C+D C+D (2x) C+D (2x) C+D (2x) C+D (2x)	TBFBSECP1L TBFBSECP2L TBFBSECP2L TBFBSECP4L TBFBSECP4AL TBFBSECP4BL TBFBSECP2L TBFBSECP2L TBFBSECP2L	A+B A+B A+B A+B A+B A+B A+B A+B A+B A+B	TBFBSECP1S TBFBSECP2L TBFBSECP2L TBFBSECP2L TBFBSECP2L TBFBSECP2L TBFBSECP2L TBFBSECP4L TBFBSECP4L
Ground studs	Туре		Cat. #		
Tapped M6 for internal ground connection	M6 Brass M6 Stainless steel M10 Brass M10 Stainless steel		ACCBSES M6 KIT ACCS1ESM6KIT ACCBSES M10 KIT ACCS1ESM10KIT		
External mounting lugs	Туре		Cat. #		
For external mounting points, direct mounting through the four corner holes of enclosure.	Mounting lugs Set of 4 pieces, glas	ssfiber reinforced p	TBFEMF4SET olyamide		
Cover mounting screws	Туре		Cat. #		
	Slotted screw		TBFLIDSCWST		
Padlock set	Туре		Cat. #		
Stainless steel, maximum diameter of padlock: 0.32"	Padlock set		TBFPADLOCK		
Hinge screw	Туре		Cat. #		
Cover security device. Note: Box must be mounted prior to fitting the hinge screw.	Hinge screw Set of 2 pieces		TBFHGESRW		
Stand off pilars	Туре	Cat. #	L (inches)	Thread Size	Style
Style A Style B	Spacer M4 Spacer M4 Spacer M4 Spacer M4 Spacer M4 Spacer M4 Spacer M4 Spacer M4 Spacer M4	TBFSOPM4X6 TBFSOPM4X10 TBFSOPM4X15 TBFSOPM4X20 TBFSOPM4X25 TBFSOPM4X30 TBFSOPM4X60 TBFSOPM4X97 TBFSOPM4X102	0.24 0.39 0.59 0.79 0.98 1.18 2.36 3.82 4.02	M4 M4 M4 M4 M4 M4 M4 M4 M4	A B B B B B B B B
Plastic rain hoods	Туре		Cat. #		
	Small Large		TBFPRHSML TBFPRMLGE		

Dimensions

In Inches:



Code	Α	В	С	D	Е	F	G	н	J	K	L	М	N	Р	Q
TBF/TBP191514	5.95	7.32	5.51	5.16	6.54	5.16	6.54	3.74	N/A	2.36	N/A	N/A	N/A	4.96	3.54
TBF/TBP301918	7.32	11.89	6.85	6.54	11.10	6.54	10.93	2.36	2.36	3.74	N/A	N/A	2.36	9.45	4.92
TBF/TBP303018	11.89	11.89	6.85	11.10	11.10	11.10	10.91	8.27	N/A	8.27	N/A	N/A	N/A	9.45	9.45
TBF/TBP373018	14.65	11.89	6.85	13.86	11.10	13.86	10.91	8.27	N/A	3.74	3.54	2.36	N/A	9.45	12.21
TBF/TBP493018	19.21	11.89	6.87	18.35	11.02	18.39	10.91	8.27	N/A	3.74	N/A	N/A	N/A	9.45	16.77
TBF/TBP563018	21.97	11.89	6.87	21.10	11.02	21.14	10.91	8.27	N/A	3.74	3.54	2.36	N/A	9.45	19.53
TBF/TBP603018	11.89	23.74	6.87	11.02	22.87	11.06	21.91	9.47	2.36	8.27	N/A	N/A	2.36	21.30	9.45
TBF/TBP603718	14.65	23.74	6.93	13.78	22.87	13.82	31.91	9.47	2.36	3.74	3.54	2.36	2.39	21.30	12.21
TBF/TBP606018	23.74	23.74	8.25	22.87	22.87	21.91	21.91	8.27	2.36	8.27	3.54	2.36	3.54	20.10	21.26

Metallic Enclosures 4E

Non-hazardous Applications

Description	Page No.
QBX Series	see pages 806-808
PTB/PTC Series	see pages 809–810
W Series	see page 811
RS / RSM / RSS Series	see page 820

Sheet or Stainless Steel Removable Hinge Cover

QBX Series

Features/Applications:

The QBX series of enclosures are available in two types of material and have been developed for the light industrial market.

Stainless steel is recommended to give maximum protection for components in outdoor/aggressive environments.

Specifically designed for the accommodation of rail mounted terminals or other electro/pneumatic components. The QBX series is user friendly and offers good access internally.

- Fully removable hinged cover, concealed hinges provide 180°
- Cover mounting, one or two 1/4 turn latches (slot shape)
- 10 key lockable variations
- · Form-in-place polyurethane gasket
- M6 ground stud in box and cover
- Mounting through internal holes (types 3S and 4) or with external lugs (type 4X)
- · Pole mounting kit available



- Class I, Division 2, Groups A, B, C, D
- cULus to UL50/C22.2 No. 94-M91 mild steel: Types 3S, 4, 4X (E115376)
- · GL Certified



Specifications:

Description	Туре	Specification
Material	All Types	Stainless steel grades 304 (1.4301) or sheet steel Grade 316L (1.4404 to EN 10088) stainless steel available RAL7032 standard paint color for painted steel enclosures (others available upon request)
Finish	Flat Electro Polished Finish	Flat Electro Polished Finish
Gasket	All Types	Form-In-Place Polyurethane
Cover Mounting	All Types	2 or 3 Hinges / 1 or 21/4 Turn Latches
Gland Plates	QBX302012, 303012, 403012, 403022 All Other Sizes	1 Gland Plate Bottom Face 2 Gland Plates on Bottom Face
Grounding	All Types	M6 Studs in Base and Cover
Enclosure Mounting	All Types	Holes Through Back of Enclosure or Using External Mounting Lugs
Equipment Mounting	All Types	IP66 to BSEN60529
Temperature Range	All Types	-4°F (-20°C) to +176°F (80°C)

Factory Options (Consult Factory):

Material Special Materials or Thickness According to Customer Specification

316L stainless steel available on all sizes (change S2 to S1 in the respective catalog number)

Finish Special Colors According to Customer Specification Sizes Special Sizes According to Customer Specification

Equipment Terminals, Myers Hubs, and Glands Assembled According to Customer Specification

Gland Plates Drilled Cable Glands Fitted to Customer Specification

Ground Studs Also Available Fitted to Gland Plates

Cover Attachments e.g. Handles and Locks

Mounting Plates All QBX Enclosures have a standard non-painted mounting plate; painted mounting plates and stainless steel mounting

plates are available

Sheet or Stainless Steel Removable Hinge Cover Ordering Information and Accessories

QBX Series Ordering Information

Painted Sheet Steel RAL 7032 Depth 4.72"			Stainless Steel (304) Brushed Depth 4.72"			
Size	Cat. #	Weight (lb)	Size	Cat. #	Weight (lb)	
1.81" x 7.87"	QBXPS302012UL	6.13	11.81" x 7.87"	QBXS2302012UL	6.48	
1.81" x 11.81"	QBXPS303012UL	7.96	11.81" x 11.81"	QBXS2303012UL	8.43	
5.75" x 11.81"	QBXPS403012UL	10.74	15.75" x 11.81"	QBXS2403012UL	10.74	
5.75" x 15.75"	QBXPS404012UL	13.14	15.75" x 15.75"	QBXS2404012UL	12.34	
9.68" x 15.75"	QBXPS504012UL	14.15	19.68" x 15.75"	QBXS2504012UL	14.98	
3.62" x 15.75"	QBXPS604012UL	16.33	23.62" x 15.75"	QBXS2604012UL	18.43	
	Steel RAL 7032			l (304) Brushed		
epth 8.66"			Depth 8.66"			
ize	Cat. #	Weight (lb)	Size	Cat. #	Weight (lb)	
I.81" x 11.18"	QBXPS303022UL	11.35	11.81" x 11.81"	QBXS2303022UL	11.40	
.81" x 15.75"	QBXPS304022UL	13.73	11.81" x 15.75"	QBXS2304022UL	13.78	
5.75" x 11.81"	QBXPS403022UL	13.73	15.75" x 11.81"	QBXS2403022UL	13.78	
5.75" x 15.75"	QBXPS404022UL	16.42	15.75" x 15.75"	QBXS2404022UL	16.49	
5.75" x 19.68"	QBXPS405022UL	19.11	15.75" x 19.68"	QBXS2405022UL	19.19	
.68" x 15.75"	QBXPS504022UL	19.11	19.68" x 15.75"	QBXS2504022UL	19.19	
).68" x 19.68"	QBXPS505022UL	22.13	19.68" x 19.68"	QBXS2505022UL	22.22	
9.68" x 23.62"	QBXPS506022UL	25.15	19.68" x 23.62"	QBXS2506022UL	25.25	
3.62" x 15.75"	QBXPS604022UL	21.62	23.62" x 15.75"	QBXS2604022UL	22.26	
3.62" x 19.68"	QBXPS605022UL	25.15	23.62" x 19.68"	QBXS2605022UL	25.25	
3.62" x 23.62"	QBXPS606022UL	28.66	23.62" x 23.62"	QBXS2606022UL	29.98	
7.56" x 19.68"	QBXPS705022UL	28.17	27.56" x 19.68"	QBXS2705022UL	28.28	
7.56" x 23.62"	QBXPS706022UL	31.81	27.56" x 23.62"	QBXS2706022UL	31.95	
.50" x 23.62"	QBXPS806022UL	34.50	31.50" x 23.62"	QBXS2806022UL	34.75	
6.00" x 23.62"	QBXPS906022UL	38.58	36.00" x 23.62"	QBXS2906022UL	39.24	
6.00" x 31.50"*	QBXPS908022UL	48.28	36.00" x 31.50"*	QBXS2908022UL	49.01	
6.00" x 36.00"*	QBXPS909022UL	53.13	36.00" x 36.00"*	QBXS2909022UL	53.90	
	Steel RAL 7032			l (304) Brushed		
epth 10.00"	0-1 "	\A/-:-I-+ (II-)	Depth 10.00"	0-4 "	M/-: (1)	
ze	Cat. #	Weight (lb)	Size	Cat. #	Weight (lb)	
3.62" x 23.62"*	QBXPS606025UL	28.66	23.62" x 23.62"*	QBXS2606025UL	29.07	
3.00" x 23.62"*	QBXPS906025UL	39.59	36.00" x 23.62"*	QBXS2906025UL	39.85	
3.00" x 31.50"*	QBXPS908025UL	49.22	36.00" x 31.50"*	QBXS2908025UL	49.60	
6.00" x 36.00"*	QBXPS909025UL	54.05	36.00" x 36.00"*	QBXS2909025UL	54.45	

Size	Cat. #	Weight (lb)
23.62" x 23.62"*	QBXPS606025UL	28.66
36.00" x 23.62"*	QBXPS906025UL	39.59
36.00" x 31.50"*	QBXPS908025UL	49.22
36.00" x 36.00"*	QBXPS909025UL	54.05

Accessories:

Stand-Off Pillars M6:

Туре	Cat. #	Length (Inches)
SP15 (Set of 2)	ACCSOP15	0.59"
SP20 (Set of 2)	ACCSOP20	0.79"
SP30 (Set of 2)	ACCSOP30	1.18"

Mounting Feet:

Туре	Cat. #	Suitability
QMF (Set of 4)	QBXPSMF	For All Types (Steel)
QSF (Set of 4)	QBXS1MF	For All Types (Stainless Steel)

Further Accessories:

Туре	Cat. #
Ground Cable	QBXEARTHCAB
Grounding Accessory Kit	QBXEARTHKIT

Туре	Lock Inserts (Key Not Included Unless Stated) Cat. #	Keys Cat. #
Slot Shape	QBXLKSLOT	N/A
Eastern European (D Shape)	QBXLKEE	QBXKEYEE
Double Bit Shape	QBXLKDBS	QBXKEYDBS
Square 8mm	QBXLKSQ8	QBXKEYSQ8
Square 7mm	QBXLKSQ7	QBXKEYSQ7
Triangular 8mm	QBXLKTR8	QBXKEYTR8
Triangular 7mm	QBXLKTR7	QBXKEYTR7
Crown Shape	QBXLKCWN	QBXKEYCWN
Wing Knob Insert with Standard Key	QBXLKWKI	QBXKEYWNI
L Padlockable Handle 10mm	QBXLKPAD	N/A

Crouse-Hinds

01	Ouse		
by	F:T•N		

Rail Mounting Bracket: Cat. #

QBXRMB

Type QZB

*Not UL Listed.

Note: For 316L stainless steel, change S2 to S1 in catalog number. All enclosures are supplied with zinc coated mounting plate

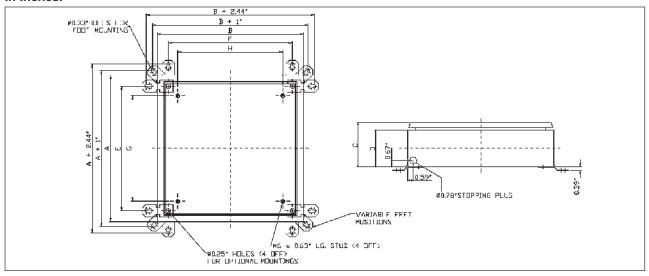
Suitability

For All Types

Sheet or Stainless Steel Removable Hinge Cover Dimensions

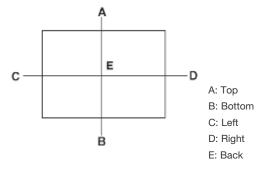
Dimensions

In Inches:



Enclosure Type 4.72" Depth	A Length	B Width	C Height	D	E	F	G	Н
QBX302012 QBX303012	11.81 11.81	7.87 11.81	4.72 4.72	9.34 9.34	9.45 9.45	5.51 9.45	7.4 7.4	3.46 7.40
QBX403012	15.75	11.81	4.72	9.34	13.39	9.45	11.34	7.40
QBX404012	15.75	15.75	4.72	9.34	13.39	13.39	11.34	11.34
QBX504012 QBX604012	19.68 23.62	15.75 15.75	4.72 4.72	9.34 9.34	17.32 21.26	13.39 13.39	15.28 19.21	11.34 11.34
QDX004012	23.02	15.75	4.72	9.34	21.20	13.39	19.21	11.34
Enclosure Type	Α	В	С	D	E	F	G	Н
8.66" Depth	Length	Width	Height					
QBX303022	11.81	11.81	8.66	7.87	9.45	9.45	7.40	7.40
QBX304022	11.81	15.75	8.66	7.87	9.45	13.39	7.40	11.34
QBX403022	15.75	11.81	8.66	7.87	13.39	9.45	11.34	7.40
QBX404022	15.75	15.75	8.66	7.87	13.39	13.39	11.34	11.34
QBX405022	15.75	19.68	8.66	7.87	13.39	17.32	11.34	15.28
QBX504022	19.68	15.75	8.66	7.87	17.32	13.39	15.28	11.34
QBX505022	19.68	19.68	8.66	7.87	17.32	17.32	15.28	15.28
QBX506022 QBX604022	19.68 23.62	23.62 15.75	8.66 8.66	7.87 7.87	17.32 21.26	21.26 13.39	15.28 19.21	19.21 11.34
QBX605022	23.62	19.68	8.66	7.87 7.87	21.26	17.32	19.21	15.28
QBX606022	23.62	23.62	8.66	7.87	21.26	21.26	19.21	19.21
QBX705022	27.56	19.68	8.66	7.87	25.2	17.32	23.15	15.28
QBX706022	27.56	23.62	8.66	7.87	25.2	21.26	23.15	19.21
QBX806022	31.49	23.62	8.66	7.87	29.15	21.26	27.08	19.21

Enclosure side identification



For Use in Threaded Rigid or IMC Conduit Applications

PTB/PTC Series Pull Boxes (Pencil Boxes)

Applications:

Pull Box Enclosures are installed in conduit systems (typically bridges/refineries) to:

- Act as pull and splice boxes
- · Protect conductors in threaded rigid conduit
- · Interconnect lengths of conduit
- · Change conduit direction
- · Provide access to conductors for maintenance and future system changes

Features:

- More internal cubic capacity for different sized conductors
- · Accurately tapped, tapered threads (NPT) for tight, rigid joints and ground continuity
- Installed NEMA 4/IP66 gasket included with pull box enclosure (NEMA 4X for stainless steel)
- PTB 90° pull boxes; PTC straight pull boxes

Certifications and Compliances:

- UL514A
- CSA C22.2 No. 18

Standard Materials:

- Bodies painted steel (RAL7032 standard; powder coated any RAL color chip available upon request)
- Bodies 304 stainless steel (optional)
- Bodies 316L stainless steel (standard grade of SS catalog numbers below)
- Hubs available in steel, malleable iron, stainless steel, and aluminum

Hub Size

11/4

11/2

11/4

11/2

21/2

11/2

21/2

21/2

 $3^{1}/_{2}$

3

3

4

3

31/2

2

2

Cover bolts - 316L stainless steel



Standard Finishes:

· Polyester powder coated over zinc primer

Options:

Description	Suffix
Custom lengths and sizes are available	Consult Factory
Powder coating to any RAL color chip	Consult Factory
Cable gland options can be supplied	Consult Factory

Finish Options:

- Electro-chemical polished stainless steel*
- · Brushed stainless steel
- · Polyester powder over painted stainless steel
- · Natural finish stainless steel
- · Polyester powder over painted carbon steel
- · Galvanized carbon steel

Lengi

· Zinc electroplating

*Depending on size.

Size Range:

• 12" through 48", hub size 1" to 6"

Ordering Information - Straight Pull Boxes:

Length

12"

12"

12"

12"

18"

18"

18"

18"

24"

24"

24"

24"

36"

36'

36"

36"

48"

48"

48"

Painted Steel

PPBPS12100TC

PPBPS12125TC

PPBPS12150TC

PPBPS12200TC

PPBPS18125TC

PPBPS18150TC

PPBPS18200TC

PPBPS18250TC

PPBPS24150TC

PPBPS24200TC

PPBPS24250TC

PPBPS24300TC

PPBPS36250TC

PPBPS36300TC

PPBPS36350TC

PPBPS36400TC

PPBPS48300TC

PPBPS48350TC

PPBPS48400TC

PPBPS48500TC

PPBPS48600TC

Cat. No.

316L Stainless Steel

PPBS148600TC

Cat. No.

PPBS112100TC	1	12"	Р
PPBS112125TC	11/4	12"	P
PPBS112150TC	11/2	12"	P
PPBS112200TC	2	12"	P
PPBS118125TC	11/4	18"	P
PPBS118150TC	1 1/2	18"	P
PPBS118200TC	2	18"	P
PPBS118250TC	21/2	18"	P
PPBS124150TC	11/2	24"	P
PPBS124200TC	2	24"	P
PPBS124250TC	21/2	24"	P
PPBS124300TC	3	24"	P
PPBS136250TC	21/2	36"	P
PPBS136300TC	3	36"	P
PPBS136350TC	31/2	36"	P
PPBS136400TC	4	36"	P
PPBS148300TC	3	48"	P
PPBS148350TC	31/2	48"	P
PPBS148400TC		48"	P
PPBS148500TC	5	48"	P

Hub Size

204 Stainless Steel

	304 Stainless Stee	I	
th	Cat. No.	Hub Size	Length
	PPBS212100TC	1	12"
	PPBS212125TC	11/4	12"
	PPBS212150TC	11/2	12"
	PPBS212200TC	2	12"
	PPBS218125TC	11/4	18"
	PPBS218150TC	11/2	18"
	PPBS218200TC	2	18"
	PPBS218250TC	21/2	18"
	PPBS224150TC	11/2	24"
	PPBS224200TC	2	24"
	PPBS224250TC		24"
	PPBS224300TC	3	24"
	PPBS236250TC		36"
	PPBS236300TC	3	36"
	PPBS236350TC	31/2	36"
	PPBS236400TC	4	36"
	PPBS248300TC	3	48"
	PPBS248350TC	- /-	48"
	PPBS248400TC	4	48"
	PPBS248500TC	5	48"
	PPBS248600TC	6	48"

4E PTB/PTC Series Pull Boxes (Pencil Boxes)

For Use in Threaded Rigid or IMC Conduit Applications

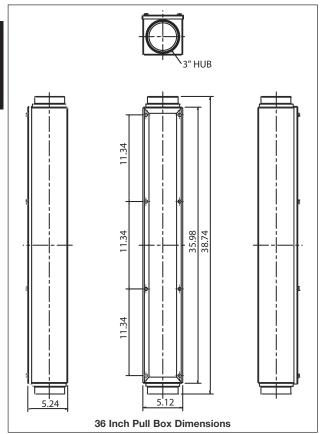
Ordering Information - 90° Pull Boxes:

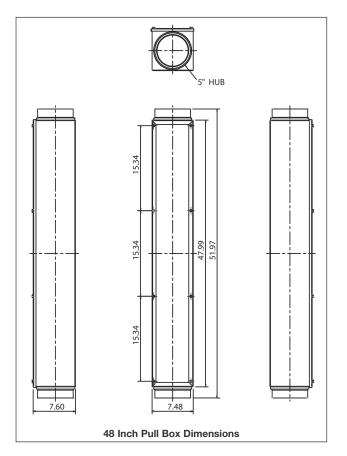
316L Stainless Steel

304 Stainless Steel

Cat. No.	Hub Size	Length	Cat. No.	Hub Size	Length	Cat. No.	Hub Size	Length
PPBPS12100TB	1	12"	PPBS112100TB	1	12"	PPBS212100TB	1	12"
PPBPS12125TB	1 1/4	12"	PPBS112125TB	1 1/4	12"	PPBS212125TB	1 1/4	12"
PPBPS12150TB	11/2	12"	PPBS112150TB	11/2	12"	PPBS212150TB	11/2	12"
PPBPS12200TB	2	12"	PPBS112200TB	2	12"	PPBS212200TB	2	12"
PPBPS18125TB	11/4	18"	PPBS118125TB	1 1/4	18"	PPBS218125TB	11/4	18"
PPBPS18150TB	11/2	18"	PPBS118150TB	1 1/2	18"	PPBS218150TB	1 1/2	18"
PPBPS18200TB	2	18"	PPBS118200TB	2	18"	PPBS218200TB	2	18"
PPBPS18250TB	21/2	18"	PPBS118250TB	21/2	18"	PPBS218250TB	21/2	18"
PPBPS24150TB	11/2	24"	PPBS124150TB	11/2	24"	PPBS224150TB	1 1/2	24"
PPBPS24200TB	2	24"	PPBS124200TB	2	24"	PPBS224200TB	2	24"
PPBPS24250TB	21/2	24"	PPBS124250TB	21/2	24"	PPBS224250TB	21/2	24"
PPBPS24300TB	3	24"	PPBS124300TB	3	24"	PPBS224300TB	3	24"
PPBPS36250TB	21/2	36"	PPBS136250TB	21/2	36"	PPBS236250TB	21/2	36"
PPBPS36300TB	3	36"	PPBS136300TB	3	36"	PPBS236300TB	3	36"
PPBPS36350TB	31/2	36"	PPBS136350TB	31/2	36"	PPBS236350TB	31/2	36"
PPBPS36400TB	4	36"	PPBS136400TB	4	36"	PPBS236400TB	4	36"
PPBPS48300TB	3	48"	PPBS148300TB	3	48"	PPBS248300TB	3	48"
PPBPS48350TB	31/2	48"	PPBS148350TB	31/2	48"	PPBS248350TB	31/2	48"
PPBPS48400TB	4	48"	PPBS148400TB	4	48"	PPBS248400TB	4	48"
PPBPS48500TB	5	48"	PPBS148500TB	5	48"	PPBS248500TB	5	48"
PPBPS48600TB	6	48"	PPBS148600TB	6	48"	PPBS248600TB	6	48"

Dimensions:





4E

Application and Selection

Applications:

Junction boxes, designed for hazardous and non-hazardous locations, are used in a variety of industries to perform the following functions:

- As a pull box
- To provide enclosures for splices and taps
- As a mounting box for multi-device control stations
- For housing apparatus, instruments, and other devices

Considerations for Selection:

- Environmental location the physical location of the junction box will call for proper construction of the box to meet National Electrical Code requirements and will affect the material and finish needed to meet weather and corrosive conditions, if present.
- Number and size of conductors combined with the function to be performed (i.e., splicing, pull box), determines the amount of space needed, and therefore, the required physical dimensions of the box.
- Conduit layout determines the number, size, and location of the conduit openings in the box. It will also determine the type of mounting required (i.e., flush or surface positioning of the box).
- Flexibility required if changes in the electrical system are anticipated, the box chosen should be easily adaptable, either by construction or size to the future system.

Options and Accessories:

A wide variety of options and accessories for special application are available for the various junction box families. These can be selected once the type of junction box has been determined. These options are shown on the individual pages. Some of the options available include:

- Special covers
- Hinged covers
- · Materials and finishes
- Equipment mounting plates
- · Conduit or device openings
- Corro-free[™] epoxy powder coat information available on request

Quick Selector Chart:

Junction Boxes	Environmental Capability/Type Designation	Size Range† L, W, D Inside	e Size Mtg.		Cover Type	Cover Material	
WAB	Raintight/Type 3, 4 Dust-tight/Type 12	4 x 4 x 2 to 72 x 30 x 16	5	Surface	Unflanged	Steel	
WCB	Raintight/Type 3, Watertight/Type 4, Dust-tight/Type 12	4 x 4 x 2 to 72 x 30 x 16	5	Surface	Overlapping	Cast iron	
WJB	Raintight/Type 3, Watertight/Type 4	4 x 4 x 3 to 72 x 30 x 16	6	Surface	Flanged	Steel	
WJBF	Raintight/Type 3, Watertight/Type 4	4 x 4 x 4 to 72 x 30 x 16	6	Flush	External flanged recessed sidewalk	Steel (checkered)	
WEB	Raintight/Type 3	4 x 4 x 3 to 36 x 36 x 12	6	Flush	Internal Flanged	Steel	

[†]Length and width are inside dimensions. Depth is inside dimension without cover.

Drilled and Tapped Conduit Openings or Slip Holes:

All W-Series cast-iron junction boxes may be ordered with drilled and tapped conduit openings or slip holes - subject to minimum spacing limitations.

To order a box from the factory with conduit openings, consult factory.

Heavy Duty External Flanged for Flush Mounting Weatherproof Watertight Raintight NEMA 3, 4, 5 Cl. II, Groups E, F, G Cl. III

Applications:

WJBF boxes are primarily designed for surface mounting. WJBF heavy duty junction boxes are installed in conduit systems to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical equipment

Features:

- Covers are suitable for vehicular traffic (H20 loading)
- · Neoprene gasket cemented to cover
- Wide range of drilled and tapped conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads may be drilled and tapped for ¼" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6, for larger sizes consult factory

Certifications and Compliances:

- Weatherproof
- Watertight
- NEMA 3, 4, 5
- NEMA 250
- CEC:

Class II, Division 1, Groups E, F, G Class III

Encl. 3, 4, 5

H20 Vehicle Load Rating*

*Self certify to H20 vehicle load rating equivalent to 16,000 lbs. on cover center.

Standard Materials:

- Iron alloy body
- Heavy-gauge steel (checkered) cover, mounting straps
- Neoprene gaskets
- Stainless steel cover screws

Standard Finishes:

Iron alloy and heavy-gauge steel – hot dip galvanized

Options:

Description Suffix

Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"







Ordering Information

Oracining init	Wall	Length	Width	Depth
Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WJBF040404	1/4	4	4	4
WJBF060404	1/4	6	4	4
WJBF060604	1/4	6	6	4
WJBF060606	1/4	6	6	6
WJBF080604	1/4	8	6	4
WJBF080606	1/4	8	6	6
WJBF080804	1/4	8	8	4
WJBF080806	1/4	8	8	6
WJBF080808	1/4	8	8	8
WJBF100806	1/4	10	8	6
WJBF100808	1/4	10	8	8
WJBF101006	1/4	10	10	6
WJBF101008	1/4	10	10	8
WJBF120606	1/4	12	6	6
WJBF120806	1/4	12	8	6
WJBF120808	1/4	12	8	8
WJBF120810	5/16	12	8	10
WJBF121206	1/4	12	12	6
WJBF121208	1/4	12	12	8
WJBF121212	5/16	12	12	12
WJBF121218	5/16	12	12	18
WJBF140806	1/4	14	8	6
WJBF141410	5/ ₁₆	14	14	10
WJBF161206	1/4	16	12	6
WJBF161208	1/4	16	12	8
WJBF161606	1/4	16	16	6
WJBF180806	1/4	18	8	6
WJBF180808	1/4	18	8	8
WJBF181006	5/ ₁₆	18	10	6
WJBF181206	5/ ₁₆	18	12	6
WJBF181208	5/16	18	12	8
WJBF181210	3/8	18	12	10
WJBF181212	5/ ₁₆	18	12	12
WJBF181218	3/8	18	12	18
WJBF181806	⁷⁸ ³ / ₈	18	18	6
WJBF181808	⁷⁸ ³ / ₈	18	18	8
WJBF181812	78 3/ ₈	18	18	12
WJBF181818	3/8	18	18	18
WJBF241208	78 3/ ₈	24	12	8
WJBF241212	3/8	24	12	12
WJBF241808	⁷⁸ ³ / ₈	24	18	8
WJBF241810	⁷⁸ ³ / ₈	24	18	10
WJBF241812	78 3/ ₈	24	18	12
WJBF241818	3/8	24	18	18
WJBF241616 WJBF242412	^{7/8} 3/ ₈	24	24	12
WJBF242412 WJBF242418	^{7/8} ³ / ₈	24	24	18
WJBF242416 WJBF242424	³ / ₈	24	24	24
WJBF242424 WJBF302412	³ / ₈	30	24	12
WJBF302412 WJBF302418	³ / ₈	30	24	18
	⁹ / ₈			
WJBF362418		36 36	24	18
WJBF362424	3/8	36	24	24

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Denth

WJB Junction Boxes

Heavy Duty Flanged for Surface Mounting

Weatherproof Watertight Raintight NEMA 3, 4, 5 Cl. II, Groups E, F, G Cl. III

Applications:

WJB boxes are primarily designed for surface mounting. WJB heavy duty junction boxes are installed in conduit systems to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical equipment

Features:

- Covers are suitable for vehicular traffic (H20 loading)
- Neoprene cover gasket
- Wide range of drilled and tapped conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads may be drilled and tapped for ¹/₄" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6, for larger sizes consult factory

Certifications and Compliances:

- Weatherproof
- Watertight
- NEMA 3, 4, 5
- NEMA 250
- CEC:

Class II, E, F, G Class III Encl. 3, 4, 5

Standard Materials:

- Iron alloy body
- Heavy-gauge steel cover and mounting straps
- Neoprene gaskets
- Stainless steel cover screws

Standard Finishes:

Iron alloy and heavy-gauge steel – hot dip galvanized

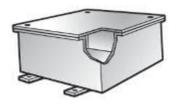
Options:

Description
Suffix
Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory



Ordering Information:

Wall



Width

Cot #	Wall	Length	Width	Depth
Cat. #	Thickness (in.)	(in.)	(in.)	(in.)
WJB040403	1/4	4	4	3
WJB040404	1/4	4	4	4
WJB060404	1/4	6	4	4
WJB060604	1/4	6	6	4
WJB060606	1/4	6	6	6
WJB080604	1/4	8	6	4
WJB080606	1/4	8	6	6
WJB080804	1/4	8	8	4
WJB080806	1/4	8	8	6
WJB080808	1/4	8	8	8
WJB100806	1/4	10	8	6
WJB100808	1/4	10	8	8
WJB101006	1/4	10	10	6
WJB101008	1/4	10	10	8
WJB120606	1/4	12	6	6
WJB120806	1/4	12	8	6
WJB120808	1/4	12	8	8
WJB120810	1/4	12	8	10
WJB121206	5/16	12	12	6
WJB121208	5/16	12	12	8
WJB121212	5/16	12	12	12
WJB121218	5/16	12	12	18
WJB140806	5/16	14	8	6
WJB141410	5/16	14	14	10
WJB161206	5/16	16	12	6
WJB161208	5/16	16	12	8
WJB161606	5/16	16	16	6
WJB180806	5/16	18	8	6
WJB180808	5/16	18	8	8
WJB181006	5/16	18	10	6
WJB181206	5/16	18	12	6
WJB181208	5/16	18	12	8
WJB181210	5/16	18	12	10
WJB181212	5/16	18	12	12
WJB181218	3/8	18	12	18
WJB181806	3/8	18	18	6
WJB181808	3/8	18	18	8
WJB181812	3/8	18	18	12
WJB181818	3/8	18	18	18
WJB241208	3/8	24	12	8
WJB241212	3/8	24	12	12
WJB241808	3/8	24	18	8
WJB241810	3/8	24	18	10
WJB241812	3/8	24	18	12
WJB241818	9/16	24	18	18
WJB242412	9/16	24	24	12
WJB242418	9/16	24	24	18
WJB242424	9/16	24	24	24
WJB302412	9/16	30	24	12
WJB302418	9/16	30	24	18
WJB362418	9/16	36	24	18
WJB362424	9/16	36	24	24
Larger sizes available i	up to 72" x 30" x 16" - Consult	t Factory		

Length

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"

Crouse-Hinds

Heavy Duty Unflanged for Surface Mounting

Applications:

Where a heavy duty dustproof, weatherproof enclosure is desired, WAB boxes are installed in conduit system to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- Wide range of drilled and tapped and slip hole conduit entrance sizes and locations permits extreme flexibility of use in conduit system
- Internal equipment mounting pads available blind tapped for 1/4" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6; for larger sizes consult factory

Certifications and Compliances:

- Dust-tight
- Weatherproof
- NEMA 3, 4, 12
- NEMA 250

Standard Materials:

- · Iron alloy body
- Heavy-gauge steel cover
- Neoprene gaskets
- Stainless steel cover screws
- Steel mounting straps

Standard Finishes:

Iron alloy and heavy gauge steel – hot dip galvanized

Options:

Description
Suffix
Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"



\A/idth

Donth

Ordering Information

Cat. #	Wall Thickness (in.)	Length (in.)	Width (in.)	Depth (in.)
WAB040402	5/32	4	4	2
WAB040403	³ / ₁₆	4	4	3
WAB040404	1/4	4	4	4
WAB050503	1/4	5	5	3
WAB050504	1/4	5	5	4
WAB060403	1/4	6	4	3
WAB060404	7/32	6	4	4
WAB060603	1/4	6	6	3
WAB060604	³ / ₁₆	6	6	4
WAB060606	9/32	6	6	6
WAB080403	5/16	8	4	3
WAB080604	⁷ / ₃₂	8	6	4
WAB080606	5/16	8	6	6
WAB080804	5/16	8	8	4
WAB080806	⁵ / ₁₆	8	8	6
WAB080808	⁵ / ₁₆	8	8	8
WAB090604	⁵ / ₁₆	9	6	4
WAB100604	1/4	10	6	4
WAB100804	1/4	10	8	4
WAB100806	9/32	10	8	6
WAB101006	1/4	10	10	6
WAB120604	9/32	12	6	4
WAB120606	9/32	12	6	6
WAB120806	9/32	12	8	6
WAB120808	3/8	12	8	8
WAB121204	9/32	12	12	4
WAB121206	9/32	12	12	6
WAB121208	9/32	12	12	8
WAB160606	1/4	16	6	6
WAB161208	5/16	16	12	8
WAB181206	5/16	18	12	6
WAB181208	5/16	18	12	8
WAB181210	3/8	18	12	10
WAB181806	3/8	18	18	6
WAB181812	⁷ / ₁₆	18	18	12
WAB241212*	7/16	24	12	12
WAB242408*	11/32	24	24	8

Longth

*NEMA 3 only. For NEMA 4 in these sizes, use WCB Larger sizes available up to 72" x 30" x 16" - Consult Factory

WCB Junction Boxes

Heavy Duty Overlapping Cover for Surface Mounting

Dust-tight Weatherproof Watertight Raintight NEMA 3, 4, 12

Length

Applications:

Where a heavy duty dust-tight, weatherproof, raintight, or watertight enclosure is desired, WCB boxes are installed in conduit systems to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- Overlapping cover sheds environment
- Wide range of drilled and tapped and slip hole conduit entrance sizes and locations permits maximum flexibility of use in conduit system
- Internal equipment mounting pads available blind tapped for ¹/₄" – 20 mounting screws
- Blind tapped into internal mounting pads
- Mounting straps are standard on smaller sized boxes up to 8x8x6; for larger sizes consult factory

Certifications and Compliances:

- Dust-tight
- Weatherproof
- Raintight
- Watertight
- NEMA 3, 4, 12
- NEMA 250

Standard Materials:

- Iron alloy cover and body
- Neoprene gaskets
- Stainless steel cover screws
- Steel mounting straps

Standard Finishes:

• Iron alloy - hot dip galvanized

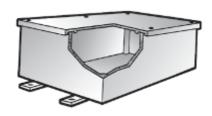
Options:

Description
Suffix
Factory installed mounting plate
Drilled and tapped conduit holes and slip holes available, Consult Factory

Size Ranges:

• 4" x 4" x 2" to 72" x 30" x 16"





Width

Depth

Ordering Information

Cat. #	Thickness (in.)	Length (in.)	(in.)	(in.)
WCB040402	5/32	4	4	2
WCB040403	3/ ₁₆	4	4	3
WCB040404	1/4	4	4	4
WCB050503	1/4	5	5	3
WCB050504	1/4	5	5	4
WCB060403	1/4	6	4	3
WCB060404	7/32	6	4	4
WCB060603	1/4	6	6	3
WCB060604	3/16	6	6	4
WCB060606	9/32	6	6	6
WCB080403	5/16	8	4	3
WCB080604	7/32	8	6	4
WCB080606	5/16	8	6	6
WCB080804	5/16	8	8	4
WCB080806	5/16	8	8	6
WCB080808	5/16	8	8	8
WCB090604	5/16	9	6	4
WCB100604	1/4	10	6	4
WCB100804	1/4	10	8	4
WCB100806	9/32	10	8	6
WCB101006	1/4	10	10	6
WCB120604	9/32	12	6	4
WCB120606	9/32	12	6	6
WCB120806	9/32	12	8	6
WCB120808	3/8	12	8	8
WCB121204	9/32	12	12	4
WCB121206	9/32	12	12	6
WCB121208	9/32	12	12	8
WCB160606	1/4	16	6	6
WCB161208	⁵ / ₁₆	16	12	8
WCB181206	5/ ₁₆	18	12	6 8
WCB181208 WCB181210	⁵ / ₁₆ 3/ ₈	18 18	12 12	8 10
WCB181210 WCB181806	78 3/ ₈	18	18	6
WCB181806 WCB181812	7/8 7/ ₁₆	18	18	6 12
WCB161612 WCB241212	7/16 7/ ₁₆	24	12	12
WCB241212 WCB242408	11/ ₃₂	24	24	8
WCD242406	/32	∠4	24	0

Larger sizes available up to 72" x 30" x 16" - Consult Factory

Heavy Duty Internal Recess Flange for Flush Mounting

Applications:

WEB Junction Boxes are installed:

- Where a heavy duty, dust-tight or raintight enclosure is desired
- To act as pull box for conductors
- To provide openings and space for making splices and taps in conductors
- To provide for branch conduit runs
- To provide access to conductors for maintenance and future system changes
- To enclose and protect electrical devices

Features:

- Flat neoprene cover gasket
- Internal equipment mounting pads
- Stainless steel cover screws
- Internal ground screw

Certifications and Compliances:

- NEMA 250
- NEMA 3

Standard Materials:

- Iron alloy body, hot dip galvanized
- Heavy-gauge steel cover, hot dip galvanized
- Stainless steel cover screws
- Neoprene gaskets

Options:

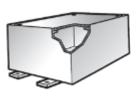
Description												
ΑII	boxes	are	available	with	optional							

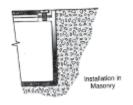
Suffix

MP

mounting plate Drilled and tapped conduit holes and slip holes available, Consult Factory







Ordering Information

Cat. #	Wall Thickness (in.)	Length (in.)	Width (in.)	Depth (in.)	
WEB040403	7/32	4	4	3	
WEB040404	1/4	4	4	4	
WEB060604	9/32	6	6	4	
WEB060606	1/4	6	6	6	
WEB080804	9/32	8	8	4	
WEB080806	1/4	8	8	6	
WEB121206	9/32	12	12	6	
WEB160606	9/32	16	6	6	
WEB160806	1/4	16	8	6	
WEB180808	5/16	18	8	8	
WEB240606	9/32	24	6	6	
WEB240808	5/16	24	8	8	
WEB241010	3/8	24	10	10	
WEB241210	5/16	24	12	10	
WEB241212	5/16	24	12	12	
WEB241812	3/8	24	18	12	
WEB361212	3/8	36	12	12	
WEB361812	3/8	36	18	12	
WEB362412	7/16	36	24	12	
WEB363612	7/16	36	36	12	

4E

Ordering Information

DRILLED AND TAPPED CONDUIT OPENINGS OR SLIP HOLES

All W-Series cast-iron junction boxes may be ordered with drilled and tapped conduit openings or slip holes – subject to minimum spacing limitations listed in Table 1.

To order a box from the factory with conduit openings:

Option 1:

Send in a sketch of the box with openings specified (subject to spacing limitations specified in Table 1). **OR**

Option 2:

- Step 1: Select one of the four standard arrangements in Table 2, based on number and location of conduit entries.
- Step 2: Pick a symbol from Table 3 for each opening in the arrangement (see example).
- Step 3: Table 4 lists the maximum size and number of conduit openings by box size and the spacing dimensions. Use Table 4 to verify the openings selected are permitted.

Example – Catalog number logic:

- 1. Select box required: WAB121208.
- 2. User wants one ½" drilled and tapped hole in the top of the box, two 1" drilled and tapped holes on both sides and three ½" slip holes in the bottom of the box.
- **3.** Select arrangement 3 because it allows up to three openings per side.
- 4. Next the symbols for the openings are substituted and written in clockwise order starting with location "a". The catalog number is written in three parts; part 1 – box number, part 2 – arrangement number, part 3 – symbols for the conduit openings.
- **5.** For this example the box would be ordered as:

WAB12	21208-3-0AO COC 1	A1A1A CoC
Box	Arrangement #	Symbols
Cat. #	-	for openings

Table 1 Minimum spacing between centers of conduits

Size of												
Conduit	6"	5"	4"	31/211	3"	2 ¹ / ₂ "	2"	1 ½"	11/4"	1"	3/411	1/211
1/2"	5	43/8	35/8	33/8	3	25/8	23/8	2	17/8	13/4	15/8	11/2
3/4"	51/8	$4^{1/2}$	33/4	31/2	31/8	23/4	21/2	21/8	2	17/8	13/4	
1"	51/4	45/8	4	35/8	31/4	3	25/8	23/8	21/4	2		
11/4"	51/2	$4^{7}/_{8}$	41/8	37/8	31/2	31/8	27/8	21/2	2 ³ / ₈			
11/2"	5 ⁵ /8	5	$4^{1}/_{4}$	4	35/8	31/4	3	25/8				
2"	6	5³/ ₈	45/8	$4^{1}/_{4}$	37/8	35/8	31/4					
21/2"	61/4	55/8	$4^{7}/_{8}$	45/8	$4^{1}/_{4}$	37/8						
3"	65/8	6	53/8	5	45/8							
31/2"	7	61/4	55/8	51/4								
4"	71/4	65/8	57/8									
5"	8	71/4										
6"	85/8											

Table 2
Standard conduit arrangements

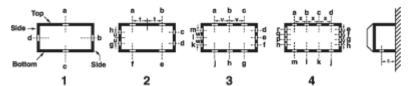
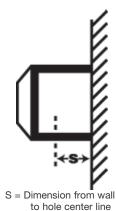


Table 3
Symbols for openings

Conduit Size	Drilled and Tapped Hole	Slip Hole		
1/2"	A	1A		
3/4"	В	1B		
1"	С	1C		
11/4"	E	1E		
11/2"	F	1F		
2"	G	1G		
21/2"	Н	1H		
3"	J	1J		
31/2"	K	1K		
4"	L	1L		
5"	M	1M		
6"	N	1N		
None	0 (Zero)	0 (Zero)		



DRILLED AND TAPPED CONDUIT OPENINGS OR SLIP HOLES Table 4

Maximum Size and Number of Drilled and Tapped Conduit **Openings**

		Top and	Bottom	†	iys		Sides	Spacing Dimensions*							
W Series	s 1	2	3	4	1	2	3	4	s	t	u	v	w	х	у
040402 040403 040404 050503 050504	3/ ₄ 1 1/ ₄ 2 1 1/ ₄ 2	3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄ 1	_ _ _ _	_ _ _ _	3/ ₄ 1 ¹ / ₄ 2 1 ¹ / ₄ 2	3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄ 1	_ _ _ _	_ _ _ _	1 1/ ₄ 1 5/ ₈ 2 1/ ₄ 1 5/ ₈ 2 1/ ₄	7/8 7/8 7/8 1 1/4 1 1/4	7/8 7/8 7/8 1 ¹ / ₄ 1 ¹ / ₄	_ _ _ _	_ _ _ _	_ _ _ _	
060403 060404 060603 060604 060606	1 ¹ / ₄ 2 1 ¹ / ₄ 2 4	3/ ₄ 1 1/ ₂ 1 1/ ₄ 1 1/ ₂ 1 1/ ₂	3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄	_ _ _ _	1½ 2 1¼ 2 4	3/ ₄ 3/ ₄ 1 1/ ₄ 1 1/ ₂ 1 1/ ₂	3/ ₄ 3/ ₄ 3/ ₄	_ _ _ _	15/8 21/4 11/4 21/4 33/8	13/8 13/8 13/8 13/8 13/8	7/8 7/8 13/8 13/8 13/8	13/4 13/4 13/4 13/4 13/4		_ _ _ _	_ _ _ _
080403 080604 080606 080804 080806	1 ¹ / ₄ 2 4 2 4	1 ¹ / ₄ 2 2 2 2	1 1 1 1	3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄	11/ ₄ 2 4 2 4	3/ ₄ 1 1/ ₂ 1 1/ ₂ 2	 3/ ₄ 3/ ₄ 1		15/8 21/4 33/8 21/4 33/8	15/8 15/8 15/8 15/8 15/8	⁷ / ₈ 1 ³ / ₈ 1 ³ / ₈ 1 ⁵ / ₈	2½ 2½ 2½ 2½ 2½ 2½	 1 ³ / ₄ 1 ³ / ₄ 2 ¹ / ₂ 2 ¹ / ₂	_ 13/4 13/4 13/4 13/4	
080808 090604 100604 100804 100806	4 2 2 2 4	2 1 ¹ / ₄ 2 2 3	1 1½ 1½ 1½ 1½ 1½	3/ ₄ 1 1 1	4 2 2 2 4	2 1½ 1½ 2 2	1 ³ / ₄ 3/ ₄ 1	3/ ₄ 3/ ₄ 2/ ₄	4 ¹ / ₄ 2 ¹ / ₄ 2 ¹ / ₄ 2 ¹ / ₄ 3 ³ / ₈	15/8 21/4 21/2 21/2 21/2	1 ⁵ / ₈ 1 ³ / ₈ 1 ³ / ₈ 1 ⁵ / ₈	2 ¹ / ₂ 3 2 ³ / ₄ 2 ³ / ₄	2½ 1¾ 1¾ 2½ 1¾	1 ³ / ₄ 2 2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂	1 ³ / ₄ - 1 ³ / ₄ 1 ³ / ₄
100808 101006 101008 120604 120606	5 4 5 2 4	3 3 3 2 4	1½ 1½ 1½ 2 2½	1 1 1 1½ 1½	5 4 5 2 4	2 3 3 1½ 1½	1 1½ 1½ 3/ ₄ 3/ ₄	3/ ₄ 1 1 —	4 ¹ / ₂ 2 ³ / ₈ 4 ¹ / ₄ 2 ¹ / ₄ 3 ³ / ₈	2½ 2½ 2½ 3	1 ⁵ / ₈ 2 ¹ / ₂ 2 ¹ / ₂ 1 ³ / ₈ 1 ³ / ₈	2 ³ / ₄ 2 ³ / ₄ 2 ³ / ₄ 4	2 ¹ / ₂ 2 ³ / ₄ 2 ³ / ₄ 1 ³ / ₄	2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂ 2 ³ / ₄ 2 ³ / ₄	1 ³ / ₄ 2 ¹ / ₂ 2 ¹ / ₂ —
120806 120808 121204 121206 121208	4 5 2 4 5	4 4 2 4 4	2 ¹ / ₂ 2 ¹ / ₂ 2 2 ¹ / ₂ 2 ¹ / ₂	2 ¹ / ₂ 2 ¹ / ₂ 1 ¹ / ₂ 1 ¹ / ₂	4 5 2 4 5	2 2 2 4 4	1 1 2 2 ¹ / ₂ 2 ¹ / ₂	3/ ₄ 3/ ₄ 1 1/ ₂ 1 1/ ₂ 1 1/ ₂	3 ³ / ₈ 4 ¹ / ₄ 2 ¹ / ₄ 3 ³ / ₈ 4 ¹ / ₄	3 3 3 3	1 ⁵ / ₈ 1 ⁵ / ₈ 3 3	4 4 4 4	2 ¹ / ₂ 2 ¹ / ₂ 4 4	2 ³ / ₄	1 ³ / ₄ 1 ¹ / ₄ 2 ³ / ₄ 2 ³ / ₄
121212 121218 140806 141206 141410	6 6 4 4 6	4 4 4 4	2 ¹ / ₂ 2 ¹ / ₂ 3 3 3	1½ 1½ 2 2 2	6 6 4 4 6	4 4 2 4 4	2 ¹ / ₂ 2 ¹ / ₂ 1 2 ¹ / ₂ 3	1½ 1½ ³ / ₄ 1½ 2	5 5 33/8 33/8 5	3 3 ¹ / ₂ 3 ¹ / ₂ 3 ¹ / ₂	3 3 1 ⁵ / ₈ 3 3 ¹ / ₂	4 4 4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂	4 4 2 ¹ / ₂ 4 4 ¹ / ₂	2 ³ / ₄ 2 ³ / ₄ 3 ¹ / ₂ 3 ¹ / ₂ 3 ¹ / ₂	2 ³ / ₄ 2 ³ / ₄ 1 ³ / ₄ 2 ³ / ₄ 3 ¹ / ₂
160606 160806 161206 161208 161606	4 4 4 5 4	4 4 4 5 4	3½ 3½ 3½ 3½ 3½ 3½	2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂	4 4 4 5 4	1½ 2½ 4 4	3/ ₄ 11/ ₂ 21/ ₂ 21/ ₂ 21/ ₂ 31/ ₂	- 3/ ₄ 11/ ₂ 11/ ₂ 21/ ₂	3 ³ / ₈ 3 ³ / ₈ 3 ³ / ₈ 4 ¹ / ₄ 3 ³ / ₈	4 4 4 4	1½ 2 3 3 4	53/8 53/8 53/8 53/8 53/8	2 2 ⁵ / ₈ 4 4 5 ³ / ₈	4 4 4 4	
180806 180808 181206 181208 181210	4 5 4 5 6	4 5 4 5 5	4 4 4 4	2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂	4 5 4 5 6	2 ¹ / ₂ 2 ¹ / ₂ 4 4	1 ¹ / ₄ 1 ¹ / ₄ 2 ¹ / ₂ 2 ¹ / ₂ 2 ¹ / ₂	3/ ₄ 3/ ₄ 1 1/ ₂ 1 1/ ₂ 1 1/ ₂	3 ³ / ₈ 4 ¹ / ₄ 3 ³ / ₈ 4 ¹ / ₄ 5	4 ¹ / ₂ 4 ¹ / ₂ 6 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₄	2 2 2 ⁷ / ₈ 3 3	6 6 5 ¹ / ₂ 5 ¹ / ₂ 5 ¹ / ₂	2 ⁵ / ₈ 2 ⁵ / ₈ 3 ⁷ / ₈ 4	4 ¹ / ₂ 4 ¹ / ₂ 4 4	2 2 2 ³ / ₄ 2 ³ / ₄

^{*}Spacing dimensions apply to drilled and tapped holes. Space has been provided for a locknut and bushing when drilled and tapped holes are required. †Top and bottom are the longer dimensions on enclosures which are not square.

Ordering Information

DRILLED AND TAPPED CONDUIT OPENINGS OR SLIP HOLES

Table 4 (continued)

Maximum Size and Number of Drilled and Tapped Conduit

Openings															
		Top a	nd Botto		3		Sides				Sp	acing Di	mensions	s*	
W Series	s														
Cat. #	1	2	3	4	1	2	3	4	s	t	u	V	w	X	У
181212 181218 181806 181808 181812	6 6 4 5 6	5 5 4 5 6	4 4 4 4	2½ 2½ 2½ 2½ 2½ 2½ 2½	6 6 5 5 6	4 4 5 5 6	2 ¹ / ₂ 2 ¹ / ₂ 4 3 ¹ / ₂ 4	1½ 1½ 2½ 2½ 2½	5 5 3 ³ / ₈ 4 ¹ / ₄ 5	4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂	3 3 4 4 4 4 ¹ / ₂	5½ 5½ 6 6	4 4 5 ³ / ₈ 5 ³ / ₈ 6	4 4 4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂	2 ¹ / ₄ 2 ³ / ₄ 4 4 4 ¹ / ₂
240606 240808 241010 241208 241210	4 5 6 5 6	4 5 6 5 6	4 5 5 5 5	4 4 4 4	4 5 6 5 6	1½ 2½ 3 4	3/ ₄ 11/ ₄ 11/ ₂ 21/ ₂ 21/ ₂	 3/ ₄ 1 1 ¹ / ₂ 1 ¹ / ₂	3 ³ / ₈ 4 ¹ / ₄ 5 4 ¹ / ₄ 5	6 ³ / ₄ 6 ³ / ₄ 6 ¹ / ₂ 6 ¹ / ₂	13/8 41/2 21/2 27/8 3	8 8 7 7 7	1 ³ / ₄ 2 ⁵ / ₈ 2 ³ / ₄ 3 ⁷ / ₈ 4	6 6 5 ³ / ₄ 5 ³ / ₄	 2 2 ¹ / ₂ 2 ³ / ₄ 2 ³ / ₄
241212 241808 241810 241812 242408	6 5 6 6 5	6 5 6 6 5	5 5 5 5	4 4 4 4	6 5 6 6 5	4 5 6 5 5	2½ 4 4 4 5	1½ 2½ 2½ 2½ 2½ 4	5 4 ¹ / ₄ 5 5 4 ¹ / ₄	6 ¹ / ₂ 6 ¹ / ₂ 6 ¹ / ₂ 6 ¹ / ₂	2 ⁷ / ₈ 4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂ 6 ¹ / ₂	7 7 7 7	3 ⁷ / ₈ 5 ³ / ₄ 5 ³ / ₄ 5 ³ / ₄ 7 ¹ / ₂	5 ³ / ₄ 5 ³ / ₄ 5 ³ / ₄ 5 ³ / ₄	2 ³ / ₄ 4 4 5 ³ / ₄
242412 242424 302412 361212 361812	6 6 6 6	6 6 6 6	5 5 6 6	4 4 5 6	6 6 6 6	6 6 4 5	5 5 5 2 ¹ / ₂ 4	4 4 4 1 ¹ / ₂ 2 ¹ / ₂	5 6 ¹ / ₂ 5 5 5	6 ¹ / ₂ 6 ³ / ₄ 7 ¹ / ₂ 8 ³ / ₄	6 ¹ / ₂ 6 ¹ / ₂ 6 ³ / ₄ 3 4 ¹ / ₂	7 7 10 12 12	7 ¹ / ₂ 7 ¹ / ₂ 8 4 4 ¹ / ₂	5 ³ / ₄ 5 ³ / ₄ 7 ¹ / ₂ 9	5 ³ / ₄ 5 ³ / ₄ 6 2 ³ / ₄ 4
362412 363612	6 6	6 6	6 6	6 6	6 6	6 6	5 6	4 6	5 5	8 ³ / ₄ 8 ³ / ₄	6 ³ / ₄ 8 ³ / ₄	12 12	8 12	9 9	6 9

^{*}Spacing dimensions apply to drilled and tapped holes. Space has been provided for a locknut and bushing when drilled and tapped holes are required. †Top and bottom are the longer dimensions on enclosures which are not square.

Applications:

RS, RSM, RSS junction boxes are installed in conduit systems to:

- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch conduit runs
- · Provide access to conductors for maintenance and future system changes

Features:

- Junction box bodies accept wide range of hub plates permitting varied hub arrangements and sizes
- · Stocking a few components provides for many specific needs
- Future system expansion easily accomplished by substituting hub plates for currently installed plates
- Suitable for use where boxes with integral hubs cannot satisfy requirements
- Suitable for surface mounting outdoors or indoors in rigid conduit runs

Certifications and **Compliances:**

- UL Standard: 514A
- CSA Standard: C22.2 No. 18

Standard Materials:

- Bodies and hub plates Feraloy® iron alloy
- Gaskets cork

Standard Finishes:

• Feraloy iron alloy - electrogalvanized and aluminum acrylic paint





Junction Boxes† Approximate Inside Dimensions

Size	Cat. #
8½ x 8½ x 4	RS1
8 ¹ / ₂ x 4 ¹ / ₂ x 4	RSM1
$4^{1}/_{2} \times 4^{1}/_{2} \times 4$	RSS1

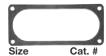
Replacement Cover Gaskets

Size	Cat. #
81/2 x 81/2	GASK61
81/2 x 41/2	GASK63
$4^{1}/_{2} \times 4^{1}/_{2}$	GASK64

Conduit Hub Plates‡ For 81/2 x 4 inch Sides of RS and **RSM Boxes**

	One	Iwo	Inree
	Hub	Hub	Hub
Size	Cat. #	Cat. #	Cat. #
1/2	RSP1	RSP11	RSP111
3/4	RSP2	RSP22	RSP222
1	RSP3	RSP33	RSP333
11/4	RSP4	RSP44	RSP444
11/2	RSP5	RSP55	RSP555
2	RSP6	RSP66	
21/2	RSP7		
3	RSP8		

Replacement Hub Plate **Gaskets**





Cat. # Cat. # GASK66 GASK65

For 41/2 x 4 inch Sides of RSM and RSS Boxes

Size	One Hub Cat. #	Two Hub Cat. #
1/2	RSMP1	RSMP11
3/4	RSMP2	RSMP22
1	RSMP3	
11/4	RSMP4	
11/2	RSMP5	
2	RSMP6	
21/2	RSMP7	

For 81/2 x 4 inch Sides of RS and **RSM Boxes**

Туре	Cat. #
Blank Hub Plate	RSP0

For 41/2 x 4 inch Sides of RSM and RSS Boxes

Туре	Cat. #
Blank Hub Plate	RSMP0

†Includes body, top cover with gasket, 4 gaskets for side plates, and 20 bolts. ‡Hub plates only. Gaskets not included.

For conduit liner ordering information, see page 860.

5 E

Non-hazardous Applications

Description	Page No.
Fiberglass Series	see page 822
NJB / NCE / NCS / NCD Series	see page 851
NJBW Series	see page 854

Partnering with Eaton's Crouse-Hinds and our dedicated team of industry experts can help you succeed. Since 1897, we have led the development of safer, more reliable ways to power the most challenging harsh and hazardous areas. Eaton's Crouse-Hinds has long been established as a leader in enclosures for hazardous, industrial, and commercial applications. Enclosures are engineered and manufactured to perform through the most corrosive conditions needed by OEMs, MRO, wastewater treatment facilities, and chemical plants. These exceptionally durable, corrosion-resistant enclosures can withstand extreme abuse and exposure to chemicals, water, and extreme conditions.

Enclosure knowledge and experience with:

- Products that deliver superior performance
- Low maintenance choices, like durable non-metallic enclosures with features designed to provide optimum protection in the harshest environments
- Dedicated and expert sales support to help select products that perform reliably and cost effectively

A commitment to safety and productivity

Eaton's Crouse-Hinds is helping more industrial facility owners, operators, and engineers succeed each day – safely and cost effectively. It's part of our commitment to focus on industries where our experience, expertise, and products can make the biggest impact.



Quick Selection Guide

CATALOG SERIES	PRODUCT GROUP & SIZE	MATERIALS	NUMBER OF SIZES	ENVIRONMENAL RATING
	Small Line Series 3" x 3" to 17" x 3"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	11	UL/cUL CSA Std C22.2 NEMA Types 1, 3R, 4X, 6P, 12
	Pushbutton Series 6" x 3" to 13.5" x 11.5" Inline and multi-hole configurations, 30mm and 22mm configurations offered	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	21	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 6P, 12
	Junction Box Series 6" x 4" to 20" x 16"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	76	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 6P, 12
	Raised Cover Series 6" x 4" to 20" x 16"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	33	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 6P, 12
	Advantage Series 6" x 6" to 20" x 16"	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	36	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 3S, 4X, 12, 13

Fiberglass Enclosures

Quick Selection Guide

CATALOG SERIES	PRODUCT GROUP & SIZE	MATERIALS	NUMBER OF SIZES	ENVIRONMENAL RATING
	Wall Mount Series 3R & 4X Series 16" x 10" to 48" x 36" NEMA 3R or 4X	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	28	UL/cUL CSA Std C22.2 (3R) NEMA Types 1, 3R (4X) NEMA Types 1, 3, 3R, 4X, 12
	Wall Mount Series Large Series 48" x 36" to 72" x 49" Large & Free-standing enclosures with double door options	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	7	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 3R, 4X, 12
	Disconnect & Circuit Breaker Series 16" x 10" to 36" x 30" Industrial Control System applications	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Stainless steel screws 304 stainless steel used on all external hardware	6	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 3R, 4X, 12
	Xtra Deep Series 6" x 4" to 20" x 16" Extra Deep Cover	Fiberglass reinforced thermoset polyester Poured polyurethane seamless gasket Recessed captive stainless steel screws 304 stainless steel used on all external hardware	11	UL/cUL CSA Std C22.2 NEMA Types 1, 3, 4X, 12



Eaton's Crouse-Hinds has a full line of Krydon material enclosures. These solid, one-piece construction enclosures are made of a proprietary formulation of fiberglass reinforced polyester that has high impact strength, is fire retardant, heat resistant and withstands weathering.

- Krydon enclosures are:
 Strong and durable while providing longer service life for equipment
 Class I, Division 2, Groups B, C, D rating on many Krydon products
 Are available in an expansive range of product groups

- Are available in hundreds of sizes and options

Eaton's Crouse-Hinds Small Line Series offers a lightweight, compact, versatile solution for applications requiring tight or confined spaces. The Small Line Series houses everything from terminal blocks to small positional control. Available in a choice of two body styles, these enclosures are made of fiberglass reinforced polyester and have a memory retaining polyurethane gasket and stainless steel screws for exceptional corrosion and chemical resistance. The Small Line Series will hold up under the most

extreme conditions and provide protection in adverse environments

Features & Benefits:

• Lift-off cover design with 4 cover screws

such as water, steam, vapor or chemicals.

- · Memory retaining continuous polyurethane gasket
- · Captive stainless steel cover screws
- · Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- · Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

- UL/cUL 50, Types 1, 3R, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3R, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3R, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- · Non-flame propagating



Materials and Finishes:

- Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- · Captive stainless steel screws
- 304 stainless steel used on all external hardware

Options:

 Mounting feet kit available for field installation. Order part number FSJMTGFTKIT

Ordering Information:

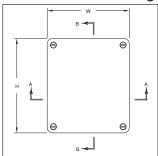


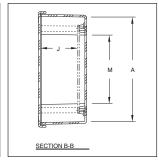
^{*} Flat Cover

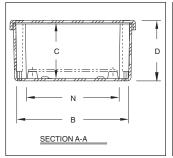
^{**} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

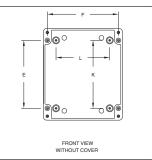
Fiberglass Enclosures Small Line Series

Dimensional Drawings



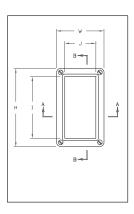


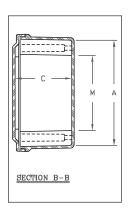


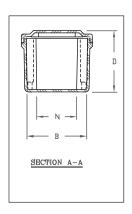


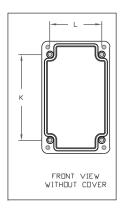
FSJS Configuration Dimensions In Inches (mm)

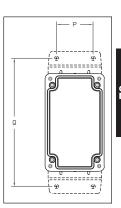
Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	K	L	М	N	Weight
FSJS070603	7.63 x 6.63 x 3.19 (194 x 168 x 81)	6.90 x 5.90 x 2.88 (175 x 150 x 73)	5.37 x 5.63 (137 x 143)	2.48 (63)	5.3 (137)	4.25 (108)	4.52 (115)	4.9 (124)	3 lbs.
FSJS090603	9.87 x 6.63 x 3.19 (251 x 168 x 81)	9.15 x 5.90 x 2.88 (232 x 150 x 73)	7.62 x 5.63 (194 x 143)	2.48 (63)	7.62 (194)	4.25 (108)	6.77 (172)	4.9 (124)	3 lbs.











FSJBS Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	I	J	K	L	М	N	Weight
FSJBS030302	3.72 x 3.63 x 2.95 (95 x 92 x 75)	3.13 x 3.03 x 2.70 (79 x 77 x 69)	0 (0)	0 (0)	2.31 (59)	2.75 (70)	1.59 (40)	2.03 (52)	1 lb.
FSJBS050302	5.97 x 3.63 x 3.14 (152 x 92 x 80)	5.38 x 3.03 x 2.87 (137 x 77 x 73)	4.72 (120)	2.38 (61)	4.56 (116)	2.75 (70)	3.84 (98)	2.03 (52)	1 lb.
FSJBS060404	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.50 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	2 lbs.
FSJBS080302	8.41 x 3.63 x 3.14 (214 x 92 x 80)	7.82 x 3.03 x 2.87 (199 x 77 x 73)	7.16 (182)	2.38 (60)	7.00 (178)	2.75 (70)	6.28 (160)	2.03 (52)	2 lbs.
FSJBS080404	8.88 x 3.81 x 3.89 (225 x 97 x 99)	8.26 x 3.19 x 3.63 (210 x 81 x 92)	7.56 (192)	2.50 (64)	7.13 (181)	2.94 (75)	6.38 (162)	2.19 (56)	2 lbs.
FSJBS090302	9.35 x 3.63 x 3.14 (237 x 92 x 80)	8.75 x 3.03 x 2.87 (222 x 77 x 73)	8.10 (206)	2.38 (60)	7.94 (202)	2.75 (70)	7.22 (183)	2.03 (52)	2 lbs.
FSJBS110404	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.50 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	2 lbs.
FSJBS140302	13.78 x 3.63 x 3.14 (350 x 92 x 80)	13.19 x 3.03 x 2.87 (335 x 77 x 73)	12.53 (318)	2.38 (60)	12.37 (314)	2.75 (70)	11.66 (296)	2.03 (52)	2 lbs.
FSJBS170302	17.35 x 3.63 x 3.14 (441 x 92 x 80)	16.75 x 3.03 x 2.87 (426 x 77 x 73)	16.10 (409)	2.38 (60)	15.94 (405)	2.75 (70)	15.22 (387)	2.03 (52)	3 lbs.

Fiberglass Enclosures Pushbutton Series

Eaton's Crouse-Hinds Pushbutton Series offers a solution for applications requiring an enclosure with multiple pre-drilled openings for pushbuttons available in 30mm and 22mm configurations. The notched keyhole design, and the ability to order up to 25 holes, makes this versatile series a perfect match for your general purpose electrical and control station applications. Available in a choice of two body designs, these enclosures are made of fiberglass reinforced polyester and have a memory retaining polyurethane gasket and stainless steel screws for exceptional corrosion and chemical resistance. The Pushbutton Series will hold up under the most extreme conditions and provide protection in adverse conditions such as water, steam, vapor or chemicals.

Features & Benefits:

- Lift-off cover design with 4 cover screws
- · Memory retaining continuous polyurethane gasket
- · Captive stainless steel cover screws
- · Full metal grounding strap
- Notched key hole design
- · Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- · Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



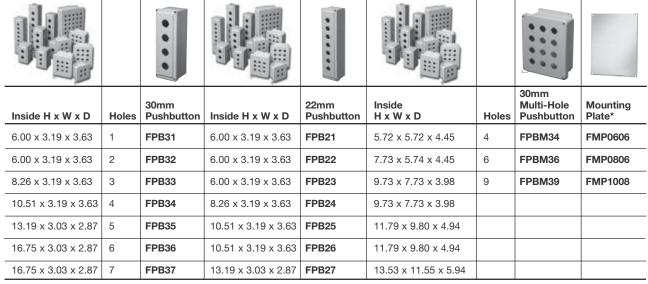
Materials and Finishes:

- Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dust-tight environmental seal
- · Captive stainless steel screws
- 304 stainless steel used on all external hardware
- Stainless steel beaded cover retention chain on the FPBM series

Options:

 Mounting feet kit available for field installation. Order part number FSJMTGFTKIT

Ordering Information:

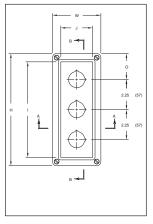


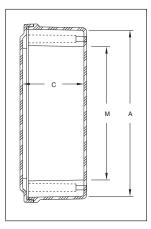
^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

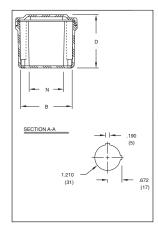
Fiberglass Enclosures Pushbutton Series

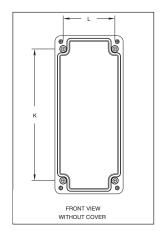
Dimensional Drawings

30mm

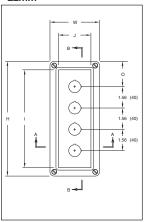


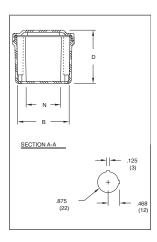


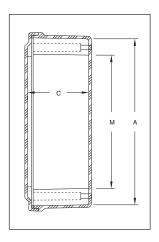


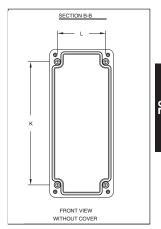


22mm

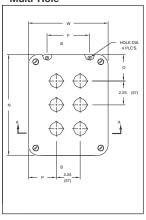


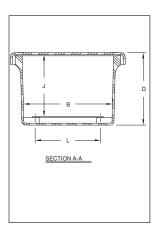


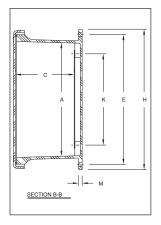


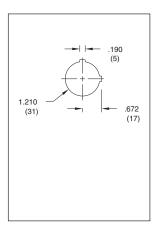


Multi-Hole









Fiberglass Enclosures Pushbutton Series

30mm Pushbutton Series - Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	I	J	K	L	М	N	0	Weight
FPB31	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	3.31 (84)	2 lbs.
FPB32	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	2.19 (56)	2 lbs.
FPB33	8.88 x 3.81 x 3.89 (225 x 97 x 99)	8.26 x 3.19 x 3.63 (210 x 81 x 92)	7.56 (192)	2.5 (64)	7.13 (181)	2.94 (75)	6.38 (162)	2.19 (56)	2.19 (56)	2 lbs.
FPB34	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.5 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	2.19 (56)	2 lbs.
FPB35	13.78 x 3.63 x 3.14 (350 x 92 x 80)	13.19 x 3.03 x 2.87 (335 x 77 x 73)	12.53 (318)	2.38 (60)	12.37 (314)	2.75 (70)	11.66 (296)	2.03 (52)	2.39 (61)	2 lbs.
FPB36	17.35 x 3.63 x 3.14 (441 x 92 x 80)	16.75 x 3.03 x 2.87 (426 x 77 x 73)	16.1 (409)	2.38 (60)	15.94 (405)	2.75 (70)	15.22 (387)	2.03 (52)	3.05 (77)	3 lbs.
FPB37	17.35 x 3.63 x 3.14 (441 x 92 x 80)	16.75 x 3.03 x 2.87 (426 x 77 x 73)	16.1 (409)	2.38 (60)	15.94 (405)	2.75 (70)	15.22 (387)	2.03 (52)	1.92 (49)	3 lbs.

22mm Pushbutton Series - Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	I	J	K	L	M	N	0	Weight
FPB21	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	3.31 (84)	2 lbs.
FPB22	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	2.53 (64)	2 lbs.
FPB23	6.63 x 3.81 x 3.89 (168 x 97 x 99)	6.00 x 3.19 x 3.63 (153 x 81 x 92)	5.31 (135)	2.5 (64)	4.88 (124)	2.94 (75)	4.13 (105)	2.19 (56)	1.75 (44)	2 lbs.
FPB24	8.88 x 3.81 x 3.89 (225 x 97 x 99)	8.26 x 3.19 x 3.63 (210 x 81 x 92)	7.56 (192)	2.5 (64)	7.13 (181)	2.94 (75)	6.38 (162)	2.19 (56)	2.09 (53)	2 lbs.
FPB25	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.5 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	2.44 (62)	2 lbs.
FPB26	11.13 x 3.81 x 3.89 (283 x 97 x 99)	10.51 x 3.19 x 3.63 (267 x 81 x 92)	9.81 (249)	2.5 (64)	9.37 (238)	2.94 (75)	8.63 (219)	2.19 (56)	1.66 (42)	3 lbs.
FPB27	13.78 x 3.63 x 3.14 (350 x 92 x 80)	13.19 x 3.03 x 2.87 (335 x 77 x 73)	12.53 (318)	2.38 (60)	12.37 (314)	2.75 (70)	11.66 (296)	2.03 (52)	2.20 (56)	3 lbs.

Multi-Hole Pushbutton Series - Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	к	L	М	N	О	Р	Hole Dia.	Weight
FPBM34	7.50 x 7.50 x 4.75 (191 x 191 x 121)	5.72 x 5.72 x 4.45 (145 x 145 x 113)	6.75 x 4 171 x 101)	4 (101)	4.25 (108)	4.25 (108)	0.25 (6)	7.52 (191)	2.64 (67)	2.64 (67)	0.31 (8)	2.75 lbs.
FPBM36	9.62 x 7.50 x 4.74 (244 x 191 x 121)	7.73 x 5.74 x 4.45 (196 x 146 x 113)	8.88 x 4 (225 x 101)	4 (101)	6.25 (159)	4.25 (108)	0.25 (6)	9.5 (242)	2.64 (67)	2.51 (64)	0.31 (8)	3.5 lbs.
FPBM39	11.62 x 9.41 x 4.25 (295 x 239 x 108)	9.73 x 7.73 x 3.98 (247 x 196 x 101)	10.75 x 6 (273 x 152)	3.5 (89)	8.25 (209)	6.25 (159)	0.25 (6)	11.35 (288)	3.43 (87)	2.45 (62)	0.31 (8)	5 lbs.

Fiberglass Enclosures Junction Box Series

Eaton's Crouse-Hinds Junction Box Series offers an extensive selection to the industrial application requiring a vast number of configurations and sizes. The Junction Box Series is available in 12 different sizes, each offering a multitude of durable cover options with features such as stainless steel hinges, padlock covers and windows. These enclosures are made of fiberglass reinforced polyester and have a poured polyurethane seamless gasket that provides a watertight and dust-tight environmental seal for exceptional corrosion and chemical resistance. The durable Junction Box Series will hold up under the most extreme applications and provide protection and reliability in the most adverse conditions.

Features & Benefits:

- · Memory retaining continuous polyurethane gasket
- Captive stainless steel cover screws
- Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- · Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- · Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids
- Stainless steel retention chain on screw cover series
- Full-length stainless steel hinges on the hinge cover series

Certification & Compliances:

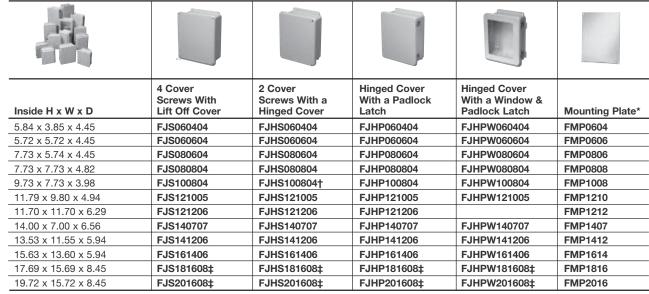
- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Window flammability UL94V-0
- · Non-flame propagating



Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- Captive stainless steel screws
- 304 stainless steel used on all external hardware
- Molded in mounting flange
- · Panel mounting capability for fixed rear panel
- · Bosses utilize threaded brass inserts accepting 10-32 screws

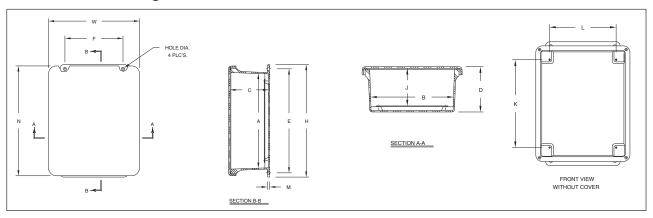
Ordering Information



^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS)

To order, add the suffix to the end of the part number † Available with the deep cover option, please add a "D" to the part number. For example, FJDHS100804 ‡ Not available with a 6P rating

Dimensional Drawings



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Window Area	Mounting E x F	J	К	L	М	N	Hole Dia.	Weight
FJS060404 FJHS060404 FJHP060404 FJHPW060404	7.50 x 5.43 x 4.75 (191 x 138 x 121)	5.84 x 3.85 x 4.45 (148 x 98 x 113)	4.25 x 2.25 (108 x 57)	6.75 x 2 (171 x 51)	4 (101)	4.25 (108)	2.25 (57)	0.25 (6)	7.39 (188)	0.31 (8)	2.5 lbs.
FJS060604 FJHS060604 FJHPW060604	7.50 x 7.50 x 4.75 (191 x 191 x 121)	5.72 x 5.72 x 4.45 (145 x 145 x 113)	4.25 x 4.25 (108 x 108)	6.75 x 4 (171 x 101)	4 (101)	4.25 (108)	4.25 (108)	0.25 (6)	7.52 (191)	0.31 (8)	2.75 lbs.
FJS080604 FJHS080604 FJHP080604 FJHPW080604	9.62 x 7.50 x 4.74 (244 x 191 x 121)	7.73 x 5.74 x 4.45 (196 x 146 x 113)	6.25 x 4.25 (159 x 108)	8.88 x 4 (225 x 101)	4 (101)	6.25 (159)	4.25 (108)	0.25 (6)	9.5 (242)	0.31 (8)	3.5 lbs.
FJS080804 FJHS080804 FJHP080804 FJHPW080804	9.56 x 9.38 x 4.89 (243 x 238 x 124)	7.73 x 7.73 x 4.64 (196 x 196 x 118)	8.75 x 6.00 (222 x 152)	8.75 x 6.00 (222 x 152)	4.06 (103)	6.25 (159)	6.25 (159)	0.25 (6)	9.37 (238)	0.31 (8)	1.71 lbs.
FJS100804 FJHS100804 FJHP100804 FJHPW100804	11.62 x 9.41 x 4.25 (295 x 239 x 108)	9.73 x 7.73 x 3.98 (247 x 196 x 101)	8.25 x 6.25 (210 x 159)	10.75 x 6 (273 x 152)	3.5 (89)	8.25 (209)	6.25 (159)	0.25 (6)	11.35 (288)	0.31 (8)	5 lbs.
FJDS100804* FJDHS100804* FJDHP100804* FJDHPW100804*	11.62 x 9.37 x 5.06 (295 x 238 x 129)	9.73 x 7.73 x 4.83 (247 x 196 x 123)	8.25 x 6.25 (210 x 159)	10.75 x 6 (273 x 152)	4.37 (111)	8.25 (209)	6.25 (159)	0.25 (6)	11.37 (289)	0.31 (8)	5 lbs.
FJS121005 FJHS121005 FJHP121005 FJHPW121005	13.56 x 11.43 x 5.21 (344 x 291 x 132)	11.79 x 9.80 x 4.94 (299 x 249 x 125)	10.25 x 8.25 (260 x 210)	12.75 x 8 (324 x 203)	4.5 (114)	10.25 (260)	8.25 (209)	0.25 (6)	13.41 (341)	0.31 (8)	6.5 lbs.

^{*}Deep cover - center of cover raised $^{3}\!/_{\!4}{}^{\text{\tiny II}}.$

Fiberglass Enclosures Junction Box Series

Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Window Area	Mounting E x F	J	K	L	М	N	Hole Dia.	Weight
FJS121206 FJHS121206 FJHP121206	13.56 x 13.38 x 6.36 (344 x 340 x 161)	11.70 x 11.70 x 6.11 (297 x 297 x 155)	12.75 x 10.00 (324 x 254)	12.75 x 10.00 (324 x 254)	5.53 (140)	10.25 (260)	10.25 (260)	0.25 (6)	13.38 (340)	0.31 (8)	3.2 lbs.
FJS140707 FJHS140707 FJHP140707 FJHPW140707	15.87 x 8.75 x 6.81 (403 x 222 x 173)	14.00 x 7.00 x 6.56 (356 x 178 x 167)	12.75 x 5.75 (324 x 146)	15 x 5 (381 x 127)	6.12 (156)	12.25 (311)	5.25 (133)	0.25 (6)	15.75 (400)	0.31 (8)	6.25 lbs.
FJS141206 FJHS141206 FJHP141206 FJHPW141206	15.50 x 13.50 x 6.25 (394 x 343 x 159)	13.53 x 11.55 x 5.94 (344 x 293 x 151)	12.25 x 10.25 (311 x 260)	14.62 x 10 (371 x 254)	5.37 (137)	12.25 (311)	10.25 (260)	0.25 (6)	15.47 (393)	0.31 (8)	8.5 lbs.
FJS161406 FJHS161406 FJHP161406 FJHPW161406	17.53 x 15.46 x 6.23 (445 x 393 x 158)	15.63 x 13.60 x 5.94 (397 x 345 x 151)	14.25 x 12.25 (362 x 311)	16.75 x 12 (425 x 305)	5.36 (136)	14.25 (362)	12.25 (311)	0.25 (6)	17.45 (443)	0.31 (8)	11.5 lbs.
FJS181608 FJHS181608 FJHP181608 FJHPW181608	19.62 x 17.61 x 8.82 (498 x 447 x 224)	17.69 x 15.69 x 8.45 (449 x 399 x 215)	16.25 x 14.25 (413 x 362)	18.88 x 12 (479 x 305)	7.99 (203)	16.25 (413)	14.25 (362)	0.25 (6)	19.61 (498)	0.31 (8)	19.25 lbs.
FJS201608 FJHS201608 FJHP201608 FJHPW201608	22.00 x 17.68 x 8.83 (559 x 449 x 224)	19.72 x 15.72 x 8.45 (501 x 399 x 215)	18.25 x 14.25 (464 x 362)	21.25 x 10.00 (540 x 254)	8 (203)	18.25 (464)	14.25 (362)	0.25 (6)	21.68 (551)	0.31 (8)	20.25 lbs.

Eaton's Crouse-Hinds Raised Cover Series offers a solution for applications requiring an enclosure with a "raised" or "deeper" cover. The deeper cover is suitable for panel mounting and for use as an operator interface in industrial equipment control stations when required. The deeper cover allows every cubic inch of valuable internal enclosure space to be used. These enclosures are made of fiberglass reinforced polyester and have a poured polyurethane seamless gasket that provides a water-tight and dust-tight environmental seal for exceptional corrosion and chemical resistance. The Raised Cover Series will hold up under the most extreme applications and provide protection and reliability in highend electronics applications, harsh corrosive environments, and industrial applications both indoors and out.

Features & Benefits:

- Memory retaining continuous polyurethane gasket
- Molded in mounting flange
- · Captive stainless steel cover screws
- · Chemical resistant fiberglass reinforced polyester
- Submersible, non-corrosive design
- Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- Material cuts, drills, punches, and saws with ease and accuracy
- · Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no

Certification & Compliances:

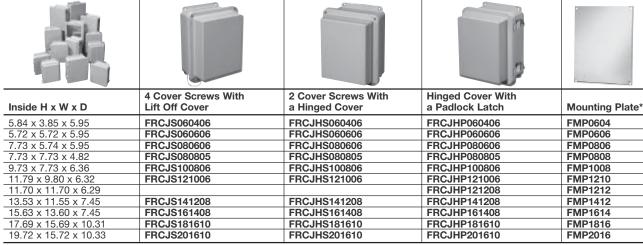
- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- · Non-flame propagating



Materials and Finishes:

- Hot compression molded fiberglass reinforced thermoset polvester
- Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- · Captive stainless steel screws
- 304 stainless steel used on all external hardware
- Molded in mounting flange
- Panel mounting capability for fixed rear panel
- Bosses utilize threaded brass inserts accepting 10-32 screws

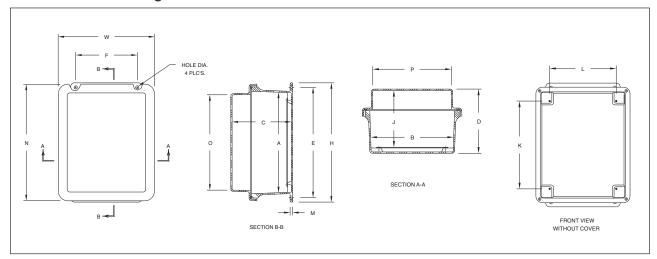
Ordering Information



^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

Fiberglass Enclosures Raised Cover Series

Dimensional Drawings



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	K	L	М	N	0	Р	Hole Dia.	Weight
FRCJS060406 FRCJHS060406 FRCJHP060406	7.50 x 5.47 x 6.22 (191 x 139 x 158)	5.84 x 3.85 x 5.95 (148 x 98 x 151)	5.84 x 3.85 x 5.95 (148 x 98 x 151)	5.49 (140)	4.25 (108)	2.25 (57)	0.25 (6)	7.45 (189)	5.31 (135)	3.34 (85)	0.31 (8)	2.5 lbs.
FRCJS060606 FRCJHS060606 FRCJHP060606	7.50 x 7.52 x 6.22 (191 x 191 x 158)	5.72 x 5.72 x 5.95 (145 x 145 x 151)	6.75 x 4 (171 x 101)	5.49 (140)	4.25 (108)	4.25 (108)	0.25 (6)	7.52 (191)	5.34 (136)	5.31 (135)	0.31 (8)	2.75 lbs.
FRCJS080606 FRCJHS080606 FRCJHP080606	9.62 x 7.46 x 6.22 (244 x 190 x158)	7.73 x 5.74 x 5.95 (196 x 146 x 151)	8.88 x 4 (225 x 101)	5.49 (140)	6.25 (159)	4.25 (108)	0.25 (6)	9.36 (238)	7.25 (185)	5.28 (134)	0.31 (8)	3.5 lbs.
FRCJS080805 FRCJHS080805 FRCJHP080805	9.56 x 9.38 x 6.26 (243 x 238 x 159)	7.73 x 7.73 x 6.01 (196 x 196 x 153)	8.75 x 6.00 (222 x 152)	5.43 (138)	6.25 (159)	6.25 (159)	0.25 (6)	9.37 (238)	7.17 (182)	7.17 (182)	0.31 (8)	4 lbs.
FRCJS100806 FRCJHS100806 FRCJHP100806	11.62 x 9.37 x 6.61 (295 x 238 x 168)	9.73 x 7.73 x 6.36 (247 x 196 x 162)	10.75 x 6 (273 x 152)	5.91 (150)	8.25 (209)	6.25 (159)	0.25 (6)	11.38 (289)	9.3 (236)	7.38 (188)	0.31 (8)	5 lbs.
FRCJS121006 FRCJHS121006 FRCJHP121006	13.56 x 11.43 x 6.61 (344 x 291 x 168)	11.79 x 9.80 x 6.32 (299 x 249 x 161)	12.75 x 8 (324 x 203)	5.87 (149)	10.25 (260)	8.25 (209)	0.25 (6)	13.41 (341)	11.2 (284)	9.23 (234)	0.31 (8)	6.5 lbs.
FRCJHP121208	13.56 x 13.38 x 7.73 (344 x 340 x 196)	11.70 x 11.70 x 7.48 (297 x 297 x 190)	12.75 x 10.00 (324 x 254)	6.90 (175)	10.25 (260)	10.25 (260)	0.25 (6)	13.38 (340)	11.17 (284)	11.17 (284)	0.31 (8)	7.4 lbs.
FRCJS141208 FRCJHS141208 FRCJHP141208	15.50 x 13.38 x 7.69 (394 x 340 x 195)	13.53 x 11.55 x 7.45 (344 x 293 x 189)	14.62 x 10 (371 x 254)	6.87 (174)	12.25 (311)	10.25 (260)	0.25 (6)	15.42 (392)	13.2 (335)	11.16 (284)	0.31 (8)	8.5 lbs.
FRCJS161408 FRCJHS161408 FRCJHP161408	17.53 x 15.43 x 7.71 (445 x 392 x 196)	15.63 x 13.60 x 7.45 (397 x 345 x 189)	16.75 x 12 (425 x 305)	6.87 (174)	14.25 (362)	12.25 (311)	0.25 (6)	17.43 (443)	15.2 (386)	13.24 (336)	0.31 (8)	11.5 lbs.
FRCJS181610 FRCJHS181610 FRCJHP181610	19.62 x 17.48 x 10.62 (498 x 444 x 270)	17.69 x 15.69 x 10.31 (449 x 399 x 262)	18.88 x 12 (479 x 305)	9.86 (250)	16.25 (413)	14.25 (362)	0.25 (6)	19.49 (495)	17.25 (438)	15.25 (387)	0.31 (8)	19.25 lbs
FRCJS201610 FRCJHS201610 FRCJHP201610	22.00 x 17.56 x 10.64 (559 x 446 x 270)	19.72 x 15.72 x 10.33 (501 x 399 x 262)	21.25 x 10.00 (540 x 254)	9.87 (251)	18.25 (464)	14.25 (362)	0.25 (6)	21.56 (548)	19.31 (490)	15.39 (391)	0.31 (8)	20.25 lbs

Eaton's Crouse-Hinds Xtra Deep Series offers a solution for applications requiring an extra deep enclosure. The deep, durable enclosure has nearly equal capacity in both the cover and the base, giving you ample room for your cover or mounting plate components. The fiberglass reinforced polyester enclosure with flange mount base, stainless steel hardware and poured polyurethane seamless gasket provides exceptional corrosion and chemical resistance in a watertight and dust-tight environmental seal. The Xtra Deep Series will hold up under the most extreme applications and provide protection and reliability in high-end electronics applications, harsh corrosive environments, and industrial applications both indoors and out.

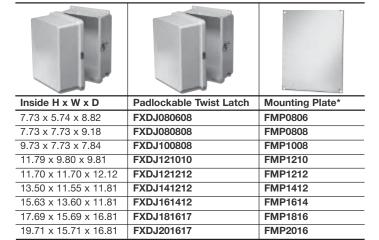
Features & Benefits:

- · Memory retaining continuous polyurethane gasket
- · Integral mounting flange
- · Molded in panel mounting inserts
- · Chemical resistant fiberglass reinforced polyester
- · Non-corrosive design
- · Full length stainless steel hinge
- Water-tight, dust-tight
- · Non-conductive, impact resistant, UV resistant
- · Material cuts, drills, punches, and saws with ease and accuracy
- · Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- · Smooth surface, no color variations, swirls or color pockets, no

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 12
- NEMA Standard 250 Types 1, 3, 4X, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating

Ordering Information



^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

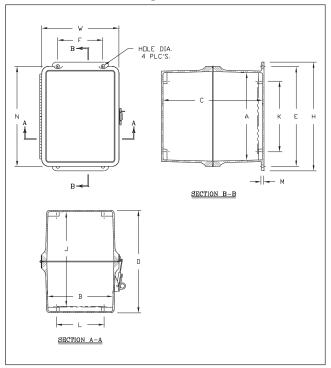


Materials and Finishes:

- Hot compression molded fiberglass reinforced thermoset polyester
- · Poured polyurethane seamless gasket provides water-tight dusttight environmental seal
- 304 stainless steel used on all external hardware
- · Molded in mounting flange
- · Panel mounting capability for fixed rear panel
- Bosses utilize threaded brass inserts accepting 10-32 screws

Fiberglass Enclosures Xtra Deep Series

Dimensional Drawings



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	K	L	М	N	Hole Dia.	Weight
FXDJ080608	9.62 x 6.84 x 9.07 (244 x 174 x 230)	7.73 x 5.74 x 8.82 (196 x 146 x 224)	8.88 x 4.00 (225 x 101)	8.37 (213)	6.25 (159)	4.25 (108)	0.25 (6)	8.87 (225)	0.31 (8)	4 lbs.
FXDJ080808	9.56 x 8.84 x 9.43 (243 x 224 x 239)	7.73 x 7.73 x 9.18 (196 x 196 x 233)	8.75 x 6.00 (222 x 152)	8.60 (219)	6.25 (159)	6.25 (159)	0.25 (6)	8.84 (224)	0.31 (8)	5 lbs.
FXDJ100808	11.62 x 8.81 x 8.09 (295 x 224 x 206)	9.73 x 7.73 x 7.84 (247 x 196 x 199)	10.75 x 6.00 (273 x 152)	7.39 (188)	8.25 (209)	6.25 (159)	0.25 (6)	10.86 (276)	0.31 (8)	6 lbs.
FXDJ121010	13.56 x 10.83 x 10.06 (344 x 275 x 256)	11.79 x 9.80 x 9.81 (299 x 249 x 249)	12.75 x 8.00 (324 x 203)	9.36 (238)	10.25 (260)	8.25 (209)	0.25 (6)	12.95 (329)	0.31 (8)	8 lbs.
FXDJ121212	13.56 x 12.84 x 12.37 (344 x 326 x 314)	11.70 x 11.70 x 12.12 (297 x 297 x 308)	12.75 x 10.00 (324 x 254)	11.54 (293)	10.25 (260)	10.25 (260)	0.25 (6)	12.84 (326)	0.31 (8)	9 lbs.
FXDJ141212	15.50 x 12.83 x 12.06 (394 x 326 x 306)	13.50 x 11.55 x11.81 (343 x 293 x 300)	14.62 x 10.00 (371 x 254)	11.23 (285)	12.25 (311)	10.25 (260)	0.25 (6)	14.88 (378)	0.31 (8)	12 lbs.
FXDJ161412	17.53 x 14.88 x 12.05 (445 x 378 x 306)	17.53 x 14.88 x 12.05 (445 x 378 x 306)	16.75 x 12.00 (425 x 305)	11.23 (285)	14.25 (362)	12.25 (311)	0.25 (6)	16.95 (431)	0.31 (8)	14 lbs.
FXDJ181617	19.62 x 16.91 x 17.19 (498 x 429 x 436)	17.69 x 15.69 x 16.81 (449 x 398 x 427)	18.88 x 12.00 (479 x 305)	16.36 (415)	16.25 (413)	14.25 (362)	0.25 (6)	18.91 (480)	0.31 (8)	22 lbs.
FXDJ201617	22.00 x 17.00 x 17.21 (558 x 431 x 437)	19.71 x 15.71 x 16.81 (501 x 399 x 427)	21.25 x 10.00 (540 x 254)	16.36 (415)	18.25 (464)	14.25 (362)	14.25 (362)	21.00 (533)	0.31 (8)	25 lbs.

Fiberglass Enclosures Advantage Series

Eaton's Crouse-Hinds Advantage Series is our most extensive selection of durable industrial non-metallic boxes. Available in a wide range of options, the Advantage Series is available in over 36 various configurations with options such as stainless steel hinges or stainless steel pull latches each with or without clear covers. These enclosures are made of fiberglass reinforced polyester and have a poured polyurethane seamless gasket that provides a water-tight and dusttight environmental seal for exceptional corrosion and chemical resistance. The resilient Advantage Series will provide high impact resistance in the most extreme conditions and provide protection and reliability in the most adverse applications.

Features & Benefits:

- · Memory retaining continuous polyurethane gasket
- · No penetrating hardware
- · Chemical resistant fiberglass reinforced polyester
- Non-corrosive design
- · Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- · Material cuts, drills, punches, and saws with ease and accuracy
- · Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

- UL/cUL 50, Types 1, 3, 3S, 4X, 12, 13
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3S, 4X, 12, 13
- NEMA Standard 250 Types 1, 3, 3S, 4X, 12, 13
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating
- IP66



Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- · Poured polyurethane seamless gasket provides water-tight dust-tight environmental seal
- 304 stainless steel used on all external hardware
- · Panel mounting capability for fixed rear panel
- Bosses utilize threaded brass inserts accepting 10-32 screws

Options:

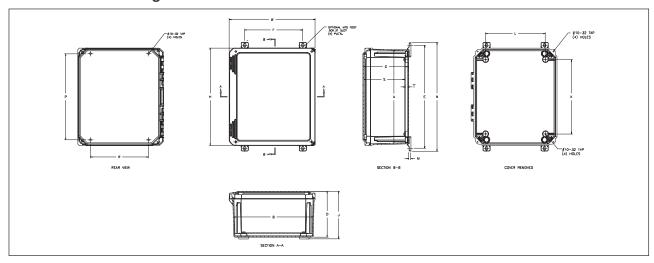
 Mounting feet kit available for field installation. Order part number **FAMTGFTKIT**

Ordering Information

Inside H x W x D	2 Cover Screws With a Hinged Cover	Hinged Cover With a Padlock Latch	2 Cover Screws With a Clear Hinged Cover	Hinged Clear Cover With a Padlock Latch	Cover Panel With Mounting Hardware	Mounting Plate
7.41 x 7.79 x 4.31	FAHS060604	FAHP060604	FAHSCC060604	FAHPCC060604	FACP0606SA	FMP0606
9.41 x 7.79 x 4.31	FAHS080604	FAHP080604	FAHSCC080604	FAHPCC080604	FACP0806SA	FMP0806
9.39 x 9.76 x 4.31	FAHS080804	FAHP080804	FAHSCC080804	FAHPCC080804	FACP0808SA	FMP0808
11.42 x 9.79 x 6.31	FAHS100806	FAHP100806	FAHSCC100806	FAHPCC100806	FACP1008SA	FMP1008
13.45 x 11.83 x 6.31	FAHS121006	FAHP121006	FAHSCC121006	FAHPCC121006	FACP1210SA	FMP1210
15.49 x 13.86 x 6.34	FAHS141206	FAHP141206	FAHSCC141206	FAHPCC141206	FACP1412SA	FMP1412
15.49 x 13.86 x 8.34	FAHS141208	FAHP141208	FAHSCC141208	FAHPCC141208	FACP1412SA	FMP1412
17.58 x 15.96 x 8.34	FAHS161408	FAHP161408	FAHSCC161408	FAHPCC161408	FACP1614SA	FMP1614
19.77 x 18.15 x 10.34	FAHS181610	FAHP181610			FACP1816SA	FMP1816
21.79 x 18.16 x 10.34	FAHS201610	FAHP201610			FACP2016SA	FMP2016

Fiberglass Enclosures Advantage Series

Dimensional Drawings



Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting P x R	K	L	s	т	Opt. Mtg. Feet E x F	N	J	М	Weight
FAHS060604 FAHP060604 FAHSCC060604 FAHPCC060604	7.41H (188.3) 7.79W (197.9) 4.31D (109.5)	6.77 x 6.77 x 4.06 (171.9 x 171.9 x 103.2)	5.93 x 4.00 (150.6 x 101.6)	4.25 (108)	4.25 (108)	3.60 (91.5)	0.38 (9.6)	8.24 x 4.00 (209.2 x 101.6)	9.02 (229.0)	4.56 (115.8)	0.25 (6.35)	2.5 lbs.
FAHS080604 FAHP080604 FAHSCC080604 FAHPCC080604	9.41H (239.1) 7.79W (197.9) 4.31D (109.5)	8.77 x 6.77 x 4.06 (222.7 x 171.9 x 103.2)	7.91 x 4.00 (200.9 x 101.6)	6.25 (159)	4.25 (108)	3.60 (91.5)	0.38 (9.6)	10.21 x 4.00 (259.3 x 101.6)	10.98 (279.0)	4.56 (115.8)	0.25 (6.35)	3.0 lbs.
FAHS080804 FAHP080804 FAHSCC080804 FAHPCC080804	9.39H (238.5) 9.76W (248.0) 4.31D (109.5)	8.74 x 8.74 x 4.06 (222.1 x 222.1 x 103.2)	7.91 x 6.00 (200.9 x 152.4)	6.25 (159)	6.25 (159)	3.60 (91.5)	0.38 (9.6)	10.21 x 6.00 (259.3 x 152.4)	10.98 (279.0)	4.56 (6.35)	0.25 (115.8)	3.5 lbs.
FAHS100806 FAHP100806 FAHSCC100806 FAHPCC100806	11.42H (290.1) 9.79W (248.6) 6.31D (160.3)	10.73 x 8.73 x 6.06 (272.5 x 221.7 x 153.9)	9.89 x 6.00 (251.2 x 152.4)	8.25 (210)	6.25 (159)	5.60 (142.3)	0.38 (9.6)	12.19 x 6.00 (309.6 x 152.4)	12.96 (329.3)	6.56 (166.6)	0.25 (6.35)	4.5 lbs.
FAHS121006 FAHP121006 FAHSCC121006 FAHPCC121006	13.45H (341.6) 11.83W (300.5) 6.31D (160.3)	12.69 x 10.69 x 6.06 (322.3 x 271.5 x 153.9)	11.88 x 8.00 (301.7 x 203.2)	10.25 (260)	8.25 (210)	5.60 (142.3)	0.38 (9.6)	14.18 × 8.00 (360.2 × 203.2)	14.95 (379.7)	6.56 (166.6)	0.25 (6.35)	6.0 lbs.
FAHS141206 FAHP141206 FAHSCC141206 FAHPCC141206		14.72 x 12.72 x 6.06 (373.9 x 323.1 x 153.9)	13.91 x 10.00 (353.3 x 254.0)	12.25 (311)	10.25 (260)	5.60 (142.3)	0.38 (9.6)	16.21 x 10.00 (411.7 x 254.0)	16.98 (431.4)	6.59 (167.4)	0.25 (6.35)	8.0 lbs.
FAHS141208 FAHP141208 FAHSCC141208 FAHPCC141208	15.49H (393.4) 13.86W (352.0) 8.34D (211.8)	14.66 x 12.66 x 8.06 (372.4 x 321.6 x 204.7)	13.88 x 10.00 (352.5 x 254.0)	12.25 (311)	10.25 (260)	7.60 (193.2)	0.38 (9.6)	16.19 x 10.00 (411.2 x 254.0)	16.96 (430.9)	8.59 (218.2)	0.25 (6.35)	9.5 lbs.
FAHS161408 FAHP161408 FAHSCC161408 FAHPCC161408		16.69 x 14.69 x 8.06 (424.0 x 373.1 x 204.7)	15.96 x 12.00 (405.4 x 304.8)	14.25 (362)	12.25 (311)	7.60 (193.2)	0.38 (9.6)	18.26 x 12.00 (464.0 x 304.8)	19.04 (483.5)	8.59 (218.2)	0.25 (6.35)	11.5 lbs.
FAHS181610 FAHP181610	19.77H (502.2) 18.15W (461.0) 10.34D (262.6)	18.63 x 16.63 x 10.06 (473.2 x 422.4 x 255.5)	17.94 x 14.00 (455.6 x 355.6)	16.25 (413)	14.25 (362)	9.60 (243.9)	0.38 (9.6)	20.24 x 14.00 (514.3 x 355.6)	21.02 (533.8)	10.59 (268.9)	0.25 (6.35)	16.0 lbs.
FAHS201610 FAHP201610	21.79H (553.5) 18.16W (461.2) 10.34D (262.6)	20.63 x 16.63 x 10.06 (524.0 x 422.4 x 255.5)	19.96 x 14.00 (506.9 x 355.6)	18.25 (463)	14.25 (362)	9.59 (243.7)	0.38 (9.6)	22.26 x 14.00 (565.6 x 355.6)	23.04 (585.1)	10.59 (268.9)	0.25 (6.35)	17.5 lbs.

Eaton's Crouse-Hinds Wall Mount and Large Fiberglass

Enclosure Series offers a solution for applications requiring a large enclosure especially suited for indoor or outdoor use and to provide protection against falling dirt, rain, sleet, snow, and windblown dust. The fiberglass reinforced polyester Wall Mount Series is available in NEMA 3R and 4X configurations and the poured polyurethane seamless gasket provides a watertight and dust-tight environmental seal for exceptional corrosion and chemical resistance.

Features & Benefits:

- Memory retaining continuous polyurethane gasket
- Lightweight
- · Integral mounting feet
- Molded in panel mounting inserts
- · Stainless steel full length continuous hinge
- · Built in padlock hasp
- Chemical resistant fiberglass reinforced polyester
- · Water-tight, dust-tight
- · Non-conductive, impact resistant, UV resistant
- Rain shield protection against incidental water ingress for NEMA 3R enclosures
- Material cuts, drills, punches, and saws with ease and accuracy
- Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

3R Series

- UL/cUL 50, Types 1, 3R
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3R
- NEMA Standard 250 Types 1, 3R
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating

4X Series

- UL/cUL 50, Types 1, 3, 3R, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3R, 4X, 12
- NEMA Standard 250 Types 1, 3, 3R, 4X, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating

Large Fiberglass

- UL/cUL 50, Types 1, 3, 3R, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3R, 4X, 12
- NEMA Standard 250 Types 1, 3, 3R, 4X, 12
- IP55 & IP66
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



Materials and Finishes:

- Hot compression molded fiberglass reinforced polyester hand layup FRP
- Poured polyurethane seamless gasket provides water-tight dust-tight environmental seal
- 304 stainless steel used on all external hardware
- Bosses utilize threaded brass inserts accepting 10-32 screws

Ordering Information:

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	+	
Inside H x W x D	Stainless Steel Hinged, Latched Down Cover	Mounting Plate*
15.92 x 10.27 x 8.53	F4WMSHL161007	FMPWM1610
19.70 x 16.04 x 13.24	F4WMSHL201612	FMPWM2016
24.00 x 12.87 x 7.33	F4WMSHL241206	FMPWM2412
24.00 x 12.87 x 11.33	F4WMSHL241210	FMPWM2412
24.05 x 20.39 x 9.25	F4WMSHL242008	FMPWM2420
24.05 x 24.39 x 11.25	F4WMSHL242410	FMPWM2424
24.05 x 24.39 x 13.25	F4WMSHL242412	FMPWM2424
29.90 x 20.14 x 7.23	F4WMSHL302006	FMPWM3020
29.90 x 20.14 x 9.23	F4WMSHL302008	FMPWM3020
29.90 x 20.14 x 11.23	F4WMSHL302010	FMPWM3020
29.90 x 20.14 x 13.23	F4WMSHL302012	FMPWM3020
30.46 x 25.47 x 8.12	F4WMSHL302407	FMPWM3024
30.46 x 25.47 x 11.27	F4WMSHL302410	FMPWM3024
30.46 x 25.47 x 13.10	F4WMSHL302412	FMPWM3024
36.31 x 31.69 x 9.36	F4WMSHL363008	FMPWM3630
36.31 x 31.69 x 11.36	F4WMSHL363010	FMPWM3630
36.31 x 31.69 x 13.36	F4WMSHL363012	FMPWM3630
	T	

19.70 x 16.04 x 7.24	F3WMSHL201606	FMPWM2016
24.05 x 24.39 x 11.25	F3WMSHL242410	FMPWM2424
29.90 x 20.14 x 9.23	F3WMSHL302008	FMPWM3020
29.90 x 20.14 x 11.23	F3WMSHL302010	FMPWM3020
30.46 x 25.47 x 11.27	F3WMSHL302410	FMPWM3024
30.46 x 25.47 x 13.10	F3WMSHL302412	FMPWM3024
36.31 x 31.69 x 9.36	F3WMSHL363008	FMPWM3630
36.31 x 31.69 x 11.36	F3WMSHL363010	FMPWM3630
36.31 x 31.69 x 13.36	F3WMSHL363012	FMPWM3630
48.33 x 36.22 x 13.25	F3WMSHL483612	FMPWM4836
48.33 x 32.22 x 17.25	F3WMSHL483616	FMPWM4836

F4LSHL483612	FMPWM4836
F4LSHL483616	FMPWM4836
F4LSHL603612	FMPWM6036
F4LSHL603616	FMPWM6036
F4LSHLDD364812	FMPWM3648
F4LSHLFS722525	FMPWM7225
F4LSHLFSDD724925	FMPWM7249
	F4LSHL483616 F4LSHL603612 F4LSHL603616 F4LSHLDD364812 F4LSHLFS722525

^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS). To order, add the suffix to the end of the part number

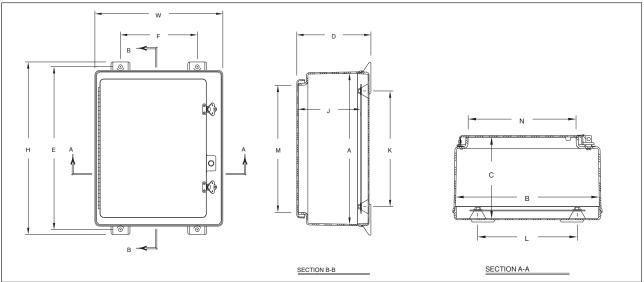
Number of Latches

Inside Enclosure Dimensions	3R Stainless Steel Hinge	4X Stainless Steel Hinge
161007	2	2
201606 201612	2	2
241206 241210	2	2
242008	2	4
242410 242412	2	2
302006 302008 302010 302012	2	5
302407 302410 302412	2	5
363008 363010 363012	3	5
483612 483616	3	10



COOK TO BE

Dimensional Drawings

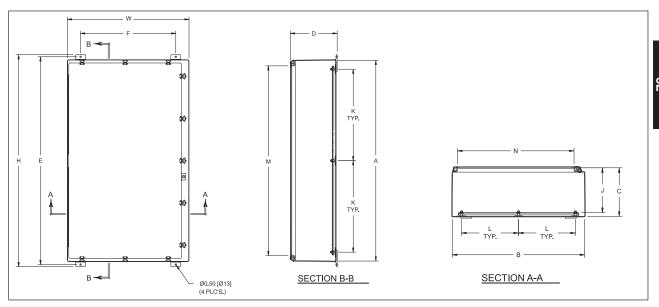


Wall Mount Series - NEMA 4X Configuration Dimensions In Inches (mm)

Catalog	Overall	Inside	Mounting			_	Enclosure	
Number	H x W x D	A x B x C	ExF	J	K	L	Opening M x N	Weight
F4WMSHL161007	18.75 x 10.96 x 9.03 (476 x 278 x 229)	15.92 x 10.27 x 8.53 (404 x 261 x 217)	17.50 x 7.00 (444 x 178)	7.8 (198)	12 (305)	7.5 (191)	13.14 x 6.00 (334 x 152)	12 lbs.
F4WMSHL201612	22.75 x 16.87 x 13.77 (578 x 429 x 350)	19.70 x 16.04 x 13.24 (500 x 407 x 336)			15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	24 lbs.
F4WMSHL241206	26.95 x 13.72 x 7.98 (685 x 348 x 203)	24.00 x 12.87 x 7.33 (610 x 327 x 186)	25.75 x 6.25 (654 x 159)	6.33 (161)	19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	21 lbs.
F4WMSHL241210	26.95 x 13.72 x 11.99 (685 x 348 x 304)	24.00 x 12.87 x 11.33 (610 x 327 x 288)	25.75 x 6.25 (654 x 159)	10.33 (262)	19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	25 lbs.
F4WMSHL242008	27.00 x 21.24 x 9.90 (686 x 539 x 252)	24.05 x 20.39 x 9.25 (611 x 518 x 235)	25.75 x 14.00 (654 x 356)	8.25 (209)	19.25 (489)	15.25 (387)	21.25 x 16.00 (540 x 406)	32 lbs.
F4WMSHL242410	27.00 x 25.24 x 11.90 (686 x 641 x 302)	24.05 x 24.39 x 11.25 (611 x 619 x 286)	25.75 x 17.87 (654 x 454)	10.25 (260)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	42 lbs.
F4WMSHL242412	27.00 x 25.24 x 13.90 (686 x 641 x 353)	24.05 x 24.39 x 13.25 (611 x 619 x 336)	25.75 x 17.87 (654 x 454)	12.25 (311)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	43 lbs.
F4WMSHL302006	32.86 x 20.99 x 7.89 (835 x 533 x 200)	29.90 x 20.14 x 7.23 (760 x 511 x 184)	30.75 x 14.25 (806 x 362)	6.23 (158)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	34 lbs.
F4WMSHL302008	32.86 x 20.99 x 9.89 (835 x 533 x 251)	29.90 x 20.14 x 9.23 (760 x 511 x 234)	31.75 x 14.25 (806 x 362)	8.23 (209)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	36 lbs.
F4WMSHL302010	32.86 x 20.99 x 11.89 (835 x 533 x 302)	29.90 x 20.14 x 11.23 (760 x 511 x 285)	31.75 x 14.25 (806 x 362)	10.23 (260)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	39 lbs.
F4WMSHL302012	29.90 x 20.14 x 13.23 (760 x 511 x 336)	29.90 x 20.14 x 13.23 (760 x 511 x 336)	31.75 x 14.25 (806 x 362)	12.23 (311)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	48 lbs.
F4WMSHL302407	33.41 x 26.32 x 8.81 (849 x 668 x 224)	30.46 x 25.47 x 8.12 (774 x 647 x 206)	32.25 x 18.50 (819 x 470)	7.12 (181)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	45 lbs.
F4WMSHL302410	33.41 x 26.32 x 11.95 (849 x 668 x 304)	30.46 x 25.47 x 11.27 (774 x 647 x 286)	32.25 x 18.50 (819 x 470)	10.27 (261)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	50 lbs.
F4WMSHL302412	33.41 x 26.32 x 13.79 (849 x 668 x 350)	30.46 x 25.47 x 13.10 (774 x 647 x 333)	32.25 x 18.50 (819 x 470)	12.1 (307)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	75 lbs.
F4WMSHL363008	39.31 x 32.50 x 10.05 (999 x 826 x 255)	36.31 x 31.69 x 9.36 (922 x 805 x 238)	38.13 x 23.88 (968 x 606)	8.36 (212)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	75 lbs.
F4WMSHL363010	39.31 x 32.50 x 12.05 (999 x 826 x 306)	36.31 x 31.69 x 11.36 (922 x 805 x 289)	38.13 x 23.88 (968 x 606)	10.36 (263)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	78 lbs.
F4WMSHL363012	39.31 x 32.50 x 14.05 (999 x 826 x 357)	36.31 x 31.69 x 13.36 (922 x 805 x 339)	38.13 x 23.88 (968 x 606)	12.36 (314)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	81 lbs.

Wall Mount Series - NEMA 3R Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	к	L	Enclosure Opening M x N	Weight
F3WMSHL201606	22.75 x 16.87 x 8.27 (578 x 429 x 210)	19.17 x 16.04 x 7.24 (500 x 407 x 184)	24 21.50 x 10.12 (546 x 257)		15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	17 lbs.
F3WMSHL242410	27.00 x 25.24 x 11.90 (686 x 641 x 302)	24.05 x 24.39 x 11.25 (611 x 619 x 286)	25.75 x 17.87 (654 x 454)	10.25 (260)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	42 lbs.
F3WMSHL302008	32.86 x 20.99 x 9.89 (835 x 533 x 251)	29.90 x 20.14 x 9.23 (760 x 511 x 234)	31.75 x 14.25 (806 x 362)	8.23 (209)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	36 lbs.
F3WMSHL302010	32.86 x 20.99 x 11.89 (835 x 533 x 302)	29.90 x 20.14 x 11.23 (760 x 511 x 285)	31.75 x 14.25 (806 x 362)	10.23 (260)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	39 lbs.
F3WMSHL302410	33.41 x 26.32 x 11.95 (849 x 668 x 304)	30.46 x 25.47 x 11.27 (774 x 647 x 286)	32.25 x 18.50 (819 x 470)	10.27 (261)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	50 lbs.
F3WMSHL302412	33.41 x 26.32 x 13.79 (849 x 668 x 350)	30.46 x 25.47 x 13.10 (774 x 647 x 333)	32.25 x 18.50 (819 x 470)	12.10 (307)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	54 lbs.
F3WMSHL363008	39.31 x 32.50 x 10.05 (999 x 826 x 255)	36.31 x 31.69 x 9.36 (922 x 805 x 238)	38.13 x 23.88 (968 x 606)	8.36 (212)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	75 lbs.
F3WMSHL363010	39.31 x 32.50 x 12.05 (999 x 826 x 306)	36.31 x 31.69 x 11.36 (922 x 805 x 289)	38.13 x 23.88 (968 x 606)	10.36 (263)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	78 lbs.
F3WMSHL363012	39.31 x 32.50 x 14.05 (999 x 826 x 357)	36.31 x 31.69 x 13.36 (922 x 805 x 339)	38.13 x 23.88 (968 x 606)	12.36 (314)	31.25 (794)	25.25 (641)	33.25 x 27.25 (845 x 692)	81 lbs.



NEMA 3R Dimensional Drawing F3WMSHL483612 and F3WMSHL483616

F3WMSHL483612	51.29 x 36.62 x 13.93 (1303 x 930 x 354)	48.33 x 36.22 x 13.25 (1228 x 920 x 336)	50.12 x 28.50 (1273 x 724)	12.25 (311)		 45.25 x 32.00 (1149 x 813)	146 lbs.
F3WMSHL483616	51.29 x 36.62 x 17.93 (1303 x 930 x 456)	48.33 x 32.22 x 17.25 (1228 x 920 x 438)	50.12 x 28.50 (1273 x 724)	16.25 (413)	21.63 (549)	 45.25 x 32.00 (1149 x 813)	164 lbs.

Wall Mount Series / NEMA 3R Chart reflects the Dimensional Drawings from the previous page.

Large Fiberglass Enclosures Series - Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	к	L	Enclosure Opening M x N	Weight
F4LSHL483612*	51.29 x 36.62 x 13.93 (1303 x 930 x 354)	48.33 x 36.22 x 13.25 (1228 x 920 x 336)	50.12 x 28.50 (1273 x 724)	12.25 (311)	21.63 (549)	31.25 (794)	45.25 x 32.00 (1149 x 813)	146 lbs.
F4LSHL483616*	51.29 x 36.62 x 17.93 (1303 x 930 x 456)	48.33 x 32.22 x 17.25 (1228 x 920 x 438)	50.12 x 28.50 (1273 x 724)	16.25 (413)	21.63 (549)	31.25 (794)	45.25 x 32.00 (1149 x 813)	164 lbs.
F4LSHL603612*	64.00 x 36.50 x 14.12 (1627 x 927 x 359)	60.62 x 36.13 x 13.44 (1540 x 918 x 441)	62.75 x 28.75 (1594 x 730)	12.44 (316)	27.63 (702)	31.25 (794)	57.25 x 32.00 (1454 x 813)	177 lbs.
F4LSHL603616*	64.00 x 36.50 x 18.12 (1627 x 927 x 460)	60.62 x 36.13 x 17.44 (1540 x 918 x 443)	62.75 x 28.75 (1594 x 730)	16.44 (418)	27.63 (702)	31.25 (794)	57.25 x 32.00 (1454 x 813)	198 lbs.
F4SHLDD364812	39.50 x 48.50 x 13.62 (1003 x 1232 x 346)	36.12 x 48.12 x 13.00 (917 x 1222 x 330)	38.25 x 40.5 (972 x 1029)	11.94 (303)	14.50 (368)	20.00 (508)	32.00 x 20.75 (813 x 527)	146 lbs.
F4SHLFS722525	72.50 x 25.50 x 26.38 (1841 x 648 x 492)	72.00 x 25.00 x 25.88 (1829 x 635 x 657)		24.88 (632)	15.50 (388)	19.00 (483)	64.75 x 21.00 (1645 x 533)	226 lbs.
F4LSHLFSDD724 925	72.50 x 49.50 x 26.38 (18.42 x 1257 x 670)	72.00 x 49.00 x 25.88 (1829 x 1245 x 654)		24.88 (628)	15.50 (394)	20.00 (508)	64.75 x 21.00 (1645 x 533)	350 lbs.

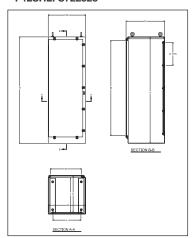
^{*} F4LSHL483612, F4LSHL483616, F4LSHL603612 and F4LSHL603616 reflective of the above chart

Wall Mount & Large Fiberglass Enclosures Series - Dimensional Drawings

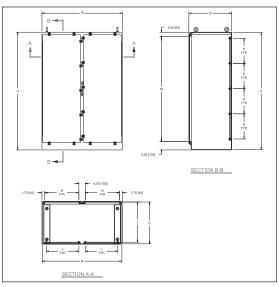
F4LSHDD364812

SECTION B-B

F4LSHLFS722525



F4LSHLFSDD724925



Fiberglass Enclosures Disconnect and Circuit Breaker Series

Eaton's Crouse-Hinds Disconnect and Circuit Breaker Series are used in larger industrial control systems and machine tool control panels where a disconnect is desirable in extreme environmental conditions. This durable NEMA 4X rated enclosure provides protection from falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water, and will be undamaged by the external formation of ice on the enclosure. The poured polyurethane seamless gasket and fiberglass reinforced polyester enclosure provides exceptional corrosion and chemical resistance in adverse conditions.

Features & Benefits:

- Integral mounting feet
- Stainless steel full length continuous hinge
- Padlockable in off position
- Lightweight
- Memory retaining continuous polyurethane gasket
- · Molded in panel mounting inserts
- · Chemical resistant fiberglass reinforced polyester
- Non-corrosive design
- Environmentally sealed Type 4X disconnect handle
- · Water-tight, dust-tight
- Non-conductive, impact resistant, UV resistant
- · Material cuts, drills, punches, and saws with ease and accuracy
- · Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
- Smooth surface, no color variations, swirls or color pockets, no voids

Certification & Compliances:

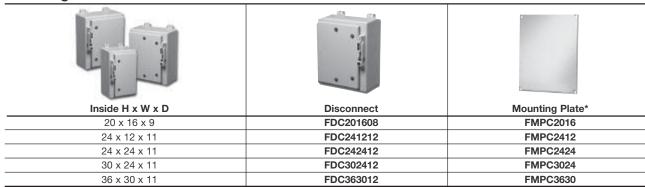
- UL/cUL 50, Types 1, 3, 3R, 4X, 12
- UL File Number E57656
- CSA Std C22.2 File 244248 Types 1, 3, 3R, 4X, 12
- NEMA Standard 250 Types 1, 3, 3R, 4X, 12
- Temperature Range (-76°F to +250°F) (-60°C to +120°C)
- Flammability Rating UL94-5V
- Non-flame propagating



Materials and Finishes:

- · Hot compression molded fiberglass reinforced thermoset polyester
- · Poured polyurethane seamless gasket
- 304 stainless steel used on all external hardware
- Panel mounting capability for fixed rear panel
- · Bosses utilize threaded brass inserts

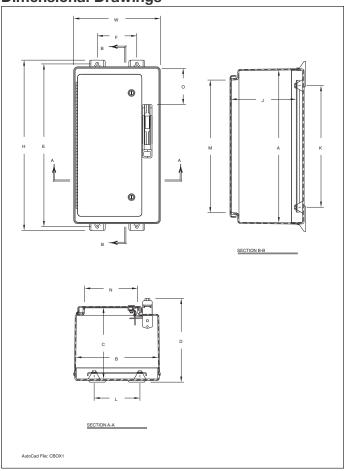
Ordering Information



^{*} Available in: Aluminum (SA), Fiberglass (FG), Carbon Steel (C), and Stainless Steel (SS) To order, add the suffix to the end of the part number

Fiberglass Enclosures Disconnect and Circuit Breaker Series

Dimensional Drawings



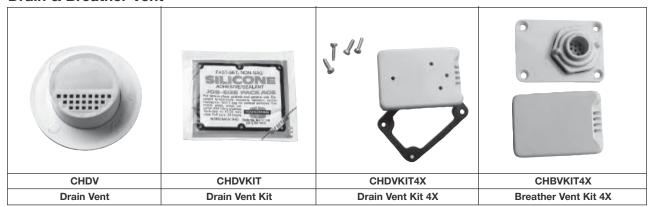
Configuration Dimensions In Inches (mm)

Catalog Number	Overall H x W x D	Inside A x B x C	Mounting E x F	J	к	L	Opening Enclosure M x N	o	Weight
FDC201608	22.75 x 16.87 x 11.00 (578 x 429 x 279)	19.70 x 16.04 x 9.24 (500 x 407 x 235)	21.50 x 10.12 (546 x 257)	8.26 (210)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	3.50 (89)	23 lbs.
FDC241212	26.95 x 13.72 x 13.25 (685 x 348 x 337)	24.00 x 12.87 x 11.33 (610 x 327 x 288)	25.75 x 6.25 (654 x 159)	10.33 (262)	19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	5.75 (146)	26 lbs.
FDC242412	27.00 x 25.24 x 13.19 (686 x 641 x 335)	24.05 x 24.39 x 11.25 (611 x 619 x 286)	25.75 x 17.87 (654 x 454)	10.25 (260)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	5.75 (146)	40 lbs.
FDC302412	33.41 x 26.32 x 13.19 (849 x 668 x 335)	30.46 x 25.47 x 11.27 (774 x 647 x 286)	32.25 x 18.50 (819 x 470)	10.27 (261)	25.25 (641)	19.25 (489)	27.38 x 21.25 (695 x 540)	12.25 (311)	51 lbs.
FDC363012	39.31 x 32.50 x 13.31 (999 x 826 x 338)	36.31 x 31.69 x 11.36 (922 x 805 x 289)	38.13 x 23.88 (968 x 606)	10.36 (263)	31.25 (794)	25.25 (641)	33.25 x 27.5 (845 x 692)	12.25 (311)	79 lbs.

^{*}Disconnect, fuse block, breaker, yoke, switches, or other internal components are not furnished with enclosure.

Fiberglass Enclosure Accessories

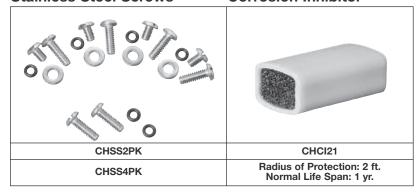
Drain & Breather Vent



Encapsulated Screws Louver Plate Vent

Carrying Handle CHENCAP2PK CHLP1 **CHHANDLE** CHENCAP4PK CHLPKIT

Corrosion Inhibitor Stainless Steel Screws



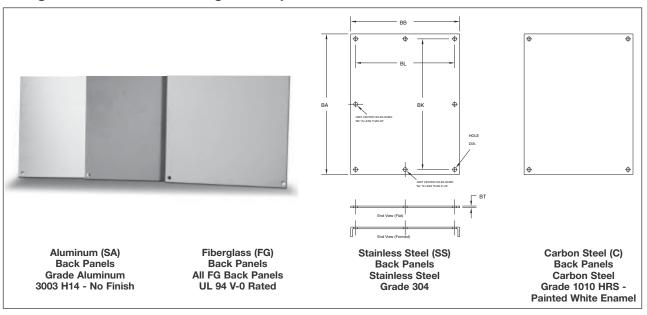
Fiberglass Enclosure Accessories

Fiberglass Hole Plug Assembly



Catalog Number	Fits	Hole Dia. Range
FPLG1KIT	½" Dia. Hole %" Dia. Hole	.50"56" .63"69"
TT EGITAT	3/4" Dia. Hole	.75"81"
EDI COVIT	22mm PB, ½" Conduit	.88" - 1.00"
FPLG2KIT	3/4" Conduit	1.06" - 1.12"
	30mm PB	1.22" - 1.28"
FPLG3KIT	1" Conduit	1.38" - 1.50"
FEGORII	11/4" Conduit	1.69" - 1.75"
FPLG4KIT	11/2" Conduit	2.00" - 2.12"
FFLG4KII	2" Conduit	2.50" - 2.56"
FPLG5KIT	21/2" Conduit	3.00"
FPLG6KIT	3" Conduit	3.62"
FPLG7KIT	31/2" Conduit	4.12"
FPLG8KIT	4" Conduit	4.62"

Fiberglass Enclosure Mounting Plate Options



Mounting Plates for Disconnect & Circuit Breaker Dimensions

Only Available in Carbon Steel (C)	ВА	ВВ	вк	BL	Panel Thickness BT	Panel Type	Hole Dia.	# of Holes	Weight (Carbon Steel) Suffix: C	Fits Typical Enclosure Size
FMPC2016	16.88 (429)	13.38 (340)	15.25 (387)	11.25 (286)	0.13 (2)	Formed	0.31 (8)	4	7.3 lbs.	20 x 16 Disconnect enclosure
FMPC2412	20.88 (530)	9.38 (238)	19.25 (489)	7.25 (184)	0.13 (2)	Formed	0.50 (13)	4	6.5 lbs.	24 x 12 Disconnect enclosure
FMPC2424	20.88 (530)	21.38 (543)	19.25 (489)	19.25 (489)	0.13 (2)	Formed	0.50 (13)	4	14 lbs.	24 x 24 Disconnect enclosure
FMPC3024	26.88 (683)	21.38 (543)	25.25 (641)	19.25 (489)	0.13 (2)	Formed	0.50 (13)	4	19 lbs.	30 x 24 Disconnect enclosure
FMPC3630	32.88 (835)	27.38 (695)	31.25 (794)	25.25 (641)	0.13 (2)	Formed	0.50 (13)	5	27 lbs.	36 x 30 Disconnect enclosure

Fiberglass Enclosure Accessories

Mounting Plates for NEMA 3R, NEMA 4X & Large Fiberglass Enclosure Dimensions											
Catalog Number	ва	вв	вк	BL	BT (SA)	BT (C)	Panel Type	Hole Dia.	# of Holes	Weight (Aluminum) Suffix: SA	Weight (Carbon Steel) Suffix: C
FMPWM1610SA FMPWM1610C	13.00 (330)	8.50 (216)	12.00 (305)	7.50 (191)	0.090 (2)	0.105 (3)	Flat	0.31 (8)	4	1 lb.	3.3 lbs.
FMPWM2016SA FMPWM2016C	17.00 (432)	13.00 (330)	15.25 (387)	11.25 (286)	0.090 (2)	0.105 (3)	Flat	0.50 (13)	4	2 lbs.	6.7 lbs.
FMPWM2412SA FMPWM2412C	21.00 (533)	9.00 (229)	19.25 (489)	7.25 (184)	0.090 (2)	0.105 (3)	Flat	0.50 (13)	4	4.5 lbs.	8.7 lbs.
FMPWM2420SA FMPWM2420C	21.00 (533)	17.00 (432)	19.25 (489)	15.25 (387)	0.13 (3)	0.105 (3)	Flat	0.50 (13)	4	5 lbs.	10.8 lbs.
FMPWM2424SA FMPWM2424C	21.00 (533)	21.00 (533)	19.25 (489)	19.25 (489)	0.13 (3)	0.105 (3)	Flat	0.50 (13)	4	5.5 lbs.	13.4 lbs.
FMPWM3020SA FMPWM3020C	27.00 (686)	17.00 (432)	25.25 (641)	15.25 (387)	0.13 (3)	0.105 (3)	Flat	0.50 (13)	4	5.8 lbs.	14 lbs.
FMPWM3024SA FMPWM3024C	27.00 (686)	21.00 (533)	25.25 (641)	19.25 (489)	0.13 (3)	0.105 (3)	Flat	0.50 (13)	4	7 lbs.	17 lbs.
FMPWM3630SA FMPWM3630C	33.00 (838)	27.00 (686)	31.25 (794)	25.25 (641)	0.13 (3)	0.105 (3)	Flat	0.50 (13)	4	11 lbs.	27 lbs.
FMPWM3636SA FMPWM3636C	31.00 (787)	33.00 (838)	29.00 (737)	31.00 (787)	0.13 (3)	0.105 (3)	Formed	0.50 (13)	6	13 lbs.	33 lbs.
FMPWM3648C	31.00 (787)	22.00 (559)	29.00 (737)	20.00 (508)	0.13 (3)	0.105 (3)	Flat	0.50 (13)	8	22 lbs.	41 lbs.
FMPWM4836SA FMPWM4836C	45.00 (1143)	33.00 (838)	43.25 (1099)	31.25 (794)	0.13 (3)	0.105 (3)	Formed	0.50 (13)	8	22 lbs.	47 lbs.
FMPWM6036SA FMPWM6036C	57.00 (1448)	33.00 (838)	55.25 (1403)	31.25 (794)	0.13 (3)	0.105 (3)	Formed	0.50 (13)	8	23 lbs.	60 lbs.
FMPWM7225C	64.00 (1626)	21.00 (533)	62.00 (1575)	19.00 (483)	0.13 (3)	0.105 (3)	Formed	0.50 (13)	10	30 lbs.	43 lbs.
FMPWM7249C	64.00 (1626)	22.00 (559)	62.00 (1575)	20.00 (508)	0.13 (3)	0.105 (3)	Formed	0.50 (13)	10	38 lbs.	91 lbs.

Mounting Plates for FSJ, FPB, FJ, FRCJ, FXDJ, FA Series Enclosures

Catalog Number	ВА	вв	вк	BL	BT (SA)	BT (FG)	BT (SS)	BT (C)	Panel Type	Hole Dia.	# of Holes	Weight (Aluminum) Suffix: SA	Weight (Fiber- glass) Suffix: FG	Weight (Stain- less) Suffix: SS	Weight (Carbon Steel) Suffix: C
FMP0604SA FMP0604FG FMP0604SS FMP0604C	4.88 (124)	2.88 (73)	4.25 (108)	2.25 (57)	0.080 (2)	0.125	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	2 oz.	2 oz.	5 oz.	5 oz.
FMP0606SA FMP0606FG FMP0606SS FMP0606C	4.88 (124)	4.88 (124)	4.25 (108)	4.25 (108)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	3 oz.	3 oz.	8 oz.	8 oz.
FMP0706SA FMP0706FG FMP0706SS FMP0706C	6.00 (152)	4.88 (124)	5.38 (137)	4.25 (108)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	4 oz.	n/a	n/a	10 oz.
FMP0806SA FMP0806FG FMP0806SS FMP0806C	6.88 (175)	4.88 (124)	6.25 (159)	4.25 (108)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	4 oz.	4 oz.	12 oz.	12 oz.
FMP0808SA FMP0808FG FMP0808SS FMP0808C	6.88 (175)	6.88 (175)	6.25 (159)	6.25 (159)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	5 oz.	5 oz.	15 oz.	15 oz.
FMP0906SA FMP0906FG FMP0906SS FMP0906C	8.25 (210)	4.88 (124)	7.63 (194)	4.25 (108)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	5 oz.	n/a	n/a	14 oz.

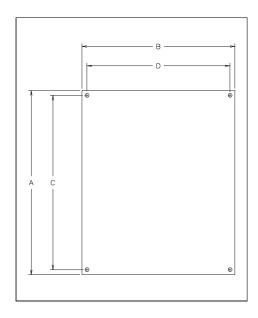
5E Fiberglass Enclosure Accessories

Mounting Plates for FSJ, FPB, FJ, FRCJ, FXDJ, FA Series Enclosures

Catalog Number	ВА	ВВ	вк	BL	BT (SA)	BT (FG)	BT (SS)	BT (C)	Panel Type	Hole Dia.	# of Holes	Weight (Aluminum) Suffix: SA	Weight (Fiber- glass) Suffix: FG	Weight (Stain- less) Suffix: SS	Weight (Carbon Steel) Suffix: C
FMP1008SA FMP1008FG FMP1008SS	8.88 (225)	6.88 (175)	8.25 (210)	6.25 (159)	0.080 (2)	0.125 (3)	0.060 (2)	0.075 (2)	Flat	0.25 (6)	4	8 oz.	8 oz.	19 oz.	21 oz.
FMP1008C FMP1210SA FMP1210FG FMP1210SS	10.88 (276)	8.88 (225)	10.25 (260)	8.25 (210)	0.080	0.125	0.060	0.075	Flat	0.25	4	12 oz.	14 oz.	30 oz.	33 oz.
FMP1210C FMP1212SA FMP1212FG FMP1212SS	10.88	10.88 (276)	10.25	10.25	0.080	0.125	0.060	0.075	Flat	0.25	4	16 oz.	18 oz.	37 oz.	38 oz.
FMP1212C FMP1407SA FMP1407FG FMP1407SS	12.88	5.88	12.25	5.25 (133)	0.080	0.125	0.060	0.075	Flat	0.25	4	14 oz.	14 oz.	32 oz.	34 oz.
FMP1407C FMP1412SA FMP1412FG FMP1412SS	12.88	10.88 (276)	12.25	10.25	0.080	0.125	0.060	0.075	Flat	0.25	4	18 oz.	20 oz.	45 oz.	48 oz.
FMP1412C FMP1614SA FMP1614FG FMP1614SS	14.88 (378)	12.88	14.25 (362)	12.25	0.080	0.125	0.060	0.075	Flat	0.25	4	24 oz.	23 oz.	60 oz.	66 oz.
FMP1614C FMP1816SA FMP1816FG	16.88	14.88	16.25	14.25	0.080	0.125	0.060	0.075	Flat	0.25	4	31 oz.	32 oz.	88 oz.	87 oz.
FMP1816SS FMP1816C FMP2016SA FMP2016FG	18.88	(378)	18.25	14.25	0.080	0.125	0.060	0.075	Flat	0.25	4	36 oz.	34 oz.	98 oz.	97 oz.
FMP2016SS FMP2016C	(479)	(378)	(463)	(362)	(2)	(3)	(2)	(2)		(6)		00 02.	3 . 02.	00 02.	

Cover Panel Dimensions

Catalog Number	Α	В	С	D	Panel Thk.	Panel Type	Hole Dia.	# of Holes
FACP0606SA	5.64 (143)	5.64 (143)	5.02 (127)	5.02 (127)	0.080 (2)	Flat	0.25 (6)	4
FACP0806SA	7.68 (195)	5.64 (143)	7.05 (179)	5.02 (127)	0.080 (2)	Flat	0.25 (6)	4
FACP0808SA	7.68 (195)	7.68 (195)	7.05 (179)	7.05 (179)	0.080 (2)	Flat	0.25 (6)	4
FACP1008SA	9.71 (247)	7.71 (196)	9.08 (231)	7.08 (180)	0.080 (2)	Flat	0.25 (6)	4
FACP1210SA	11.74 (298)	9.74 (247)	11.12 (282)	9.12 (232)	0.080 (2)	Flat	0.25 (6)	4
FACP1412SA	13.78 (350)	11.78 (299)	13.15 (334)	11.15 (283)	0.080 (2)	Flat	0.25 (6)	4
FACP1614SA	15.81 (402)	13.81 (351)	15.18 (386)	13.18 (334)	0.080 (2)	Flat	0.25 (6)	4
FACP1816SA	17.94 (456)	15.94 (405)	17.31 (440)	15.31 (389)	0.080 (2)	Flat	0.25 (6)	4
FACP2016SA	19.76 (502)	15.76 (400)	19.13 (486)	15.13 (384)	0.080 (2)	Flat	0.25 (6)	4



Note: Cover panel kit includes cover panel and mounting hardware.

Fiberglass Enclosures Custom Built Solutions for Fast Delivery

Custom Modification Offering:

Please consult the factory for a quotation on the following custom modifications that we are pleased to offer to help meet the needs of our customers:

- · Custom molded colors
- Gasketed windows for the FJ, FRC and the Wall Mount Series
- · Custom sizes
- Special hole patterns for drilling and tapping configurations
- Dead front and sub panels
- Silk screening capabilities
- Terminal kits and DIN rails available

Custom Built Lighting & Power Panelboards:

Motor control, power distribution products and custom control panels designed and built to our customers' unique needs and delivered when they are required.

Overview:

Fiberglass panelboards rated for outdoor NEMA 3R and 4X environments.

Ratings:

120/208V 3 Phase, 4 Wire

 $\ensuremath{\mathsf{QOB^\circ}}$ circuit breakers, single or two-pole 120/240VAC; three-pole 240 VAC

Trip ratings:

10 to 70 amps, single-pole

10 to 125 amps, two-pole

10 to 100 amps, three-pole

480Y/277V 3 Phase, 4 Wire

 EDB° circuit breakers, single or two-pole 277 VAC; three-pole 480Y/277 VAC

Trip ratings:

15 to 70 amps, single-pole

15 to 125 amps, two-pole

15 to 125 amps, three-pole

Certifications:

- NEMA 1, 3, 3R, 4X and 12
- UL Standard: 67
- CSA Standard: C22.2



Gasketed Window FJ, FRC & Wall Mount Series



Fiberglass Enclosures Custom Built Solutions for Fast Delivery

Custom Built Heavy Duty Disconnects (Circuit Breaker, Fusible and Non-Fusible)

Applications:

Fiberglass Heavy Duty Disconnects are for use in disconnecting motor, lighting and other circuits.

Certifications

- NEMA/EEMAC: 1, 3, 3R, 4X and 12
- UL Standard: 508
- CSA Standard: C22.2

Electrical Ratings Ranges:

- 3-pole, 60Hz, 600 VAC
- Starters NEMA sizes 0. 1. 2
- Breakers 15 800 Amp Rating
- Switches 30, 60, 100, 200 Amp

Custom Built Control Stations

Overview:

The Pushbutton Series offers an enclosure solution where multiple pre-drilled openings for 30mm pushbuttons are required. Enclosures are available in sizes ranging from 6" \times 3" to 13.5" \times 11.5" with notched keyhole design and the ability to order up to 25 holes, making this solution a perfect choice for your control station applications.

Certifications and Compliances:

- UL/cUL 50, Types 1, 3, 4X, 6P, 12
- UL Standard: 508
- CSA Std C22.2 File 244248 Types 1, 3, 4X, 6P, 12
- NEMA Standard 250 Types 1, 3, 4X, 6P, 12

Electrical Ratings Ranges:

- Pushbutton stations and selector switches heavy duty 600 VAC maximum
- Pilot lights, selector switches, push buttons 120 to 600 VAC; 24 VAC/DC





NJB/NCE/NCS/NCD Junction Boxes and Enclosures

Corrosion-Resistant Dust-tight Watertight Weatherproof NEMA 3, 4X, 12

Applications:

Where a corrosion-, heat-, and water-resistant enclosure is desired, *Krydon*® type NJB/NCE/NCS/NCD boxes are installed in conduit systems to:

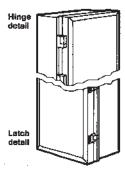
- · Act as pull box for conductors
- Provide openings and space for making splices and taps in conductors
- Provide for branch circuit runs
- Provide access to conductors for maintenance and future system changes
- Enclose and protect electrical devices

Features:

- Adjustable mounting feet permit side or top mounting (1018 and larger)
- Removable enclosure covers with Hypalon gaskets – hinged type optional – to provide full interior access for ease of wiring
- Hinged access door standard on NCE control enclosure covers
- Flat neoprene access door gaskets

Certifications and Compliances:

- NEMA 3, 4X and 12 (raintight only, when latches are used)
- UL Standard: 50



Options:

- Hubs for factory or field installation see listing on page 856
- Grounding plate or bushing see listing on page 856
- Hinge and latch kits. For field installation, order the required number of kits

Hinge kit – **NH1**Latch and lockout kit – **NTL01**

 Mounting plates, made of steel with electrogalvanized finish, can be custom drilled to your specifications or supplied blank.

Control



		Dimensi	ons
Fits Enclosure	Mounting Plate Cat. #	Length	Width
31/4 x 63/4	MP0407	41/2	23/4
31/4 x 9	MP0409	63/4	23/4
31/4 x 11	MP0411	83/4	2 ³ / ₄
5 x 9	MP0509	63/4	33/4
7 x 10	MP0710	71/2	5 ³ / ₄
7 x 14	MP0714	9	53/4
10 x 18	MP1018	141/2	81/2
10 x 24	MP1024	20	81/2
14 x 26	MP1426	221/2	12 ³ / ₄
24 x 26	MP2426	22	20

Ordering Information

Junction Box	xes		Enclosures	Maximum Hub Size			
Basic Box Cat. #	at. # (1 side) Cat. # (all sides) Cat. # (3 sides) Cat. #				Long Sides	Short Sides	
NJB040703	·				3/4	3/4	
NJB040704					1	1	
NJB040903					3/4	3/4	
NJB041103					3/4	3/4	
NJB041104					1	1	
NJB050905					11/2	11/2	
NJB071006	NJB071006 NH				2	2	
NJB071406	NJB071406 NH				2	2	
NJB101807	NJB101807 NH	NJB101807 NTL	NJB101807 NHTL	NCE101807	2*	21/2	
NJB102407	NJB102407 NH	NJB102407 NTL	NJB102407 NHTL	NCE102407	2*	21/2	
NJB142608	NJB142608 NH	NJB142608 NTL	NJB142608 NHTL	NCE142608	21/2 *	3	
NJB242608	NJB242608 NH	NJB242608 NTL	NJB242608 NHTL	NCE242608	21/2 *	3	

^{*}Can be increased one hub size when used without mounting plate.

Control Station Enclosures

Without Hubs Cat. #	With One Hub (½") Cat. #	With Two Hubs (1/2") Cat. #	With One Hub (¾") Cat. #	With Two Hubs (¾") Cat. #	With One Hub (1") Cat. #	With Two Hubs (1") Cat. #
NCD01 NCS01 (1 device)	NCD11 NCS11	NCDC11 NCSC11	NCD21 NCS21	NCDC21 NCSC21	NCD31	NCDC31
NCD02 NCS02 (2 devices)	NCD12 NCS12	NCDC12 NCSC12	NCD22 NCS22	NCDC22 NCSC22	NCD32	NCDC32
NCD03 NCS03 (3 devices)	NCD13 NCS13	NCDC13 NCSC13	NCD23 NCS23	NCDC23 NCSC23	NCD33	NCDC33
NCD04 NCS04 (4 devices)	NCD14 NCS14	NCDC14 NCSC14	NCD24 NCS24	NCDC24 NCSC24	NCD34	NCDC34

Crouse-Hinds

NJB/NCE/NCS/NCD Junction Boxes and Enclosures

Quick Selector Guide

NJB Series Junction Boxes



NJB040703 3½ × 6¾ × 2¾



NJB040704 3¹/₄ x 6³/₄ x 3³/₄



NJB040903 3¹/₄ x 9 x 2³/₄



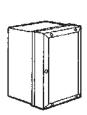
NJB041103 3½ x 11 x 2¾



NJB041104 3½ x 11 x 3¾



NJB050905 5 x 9 x 5



NJB071006 7 x 10 x 6½



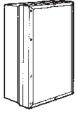
NJB071406 7 x 14 x 6½



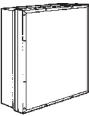
NJB101807 10 x 18 x 7½



NJB102407 10 x 24 x 7½



NJB142608 14 x 26 x 8¹/₂

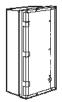


NJB242608 24 x 26 x 8¹/₂

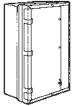
NCE Series Control Enclosures



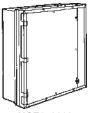
NCE101807 10 x 18 x 7¹/₂



NCE102407 10 x 24 x 7¹/₂



NCE142608 14 x 26 x 8½



NCE242608 24 x 26 x 8¹/₂

NCD/NCS Series Control Stations



NCD01 3¹/₄ x 6³/₄ x 3³/₄ NCS01 3¹/₄ x 6³/₄ x 2³/₄ 1 Device



NCD02 3¹/₄ x 6³/₄ x 3³/₄ NCS02 3¹/₄ x 6³/₄ x 2³/₄ 2 Devices



NCS03 3½ x 9 x 2¾ 3 Devices



NCD03 and NCD04 31/4 x 11 x 33/4 NCS04 31/4 x 11 x 23/4 4 Devices

Dimensions



NCD01 3½ x 6¾ x 3¾ NCS01 3¼ x 6¾ x 2¾ 1 Device



NCD02 3¹/₄ x 6³/₄ x 3³/₄ NCS02 3¹/₄ x 6³/₄ x 2³/₄ 2 Devices



NCS03 3¹/₄ x 9 x 2³/₄ 3 Devices



NCD03 and NCD04 3¹/₄ × 11 × 3³/₄ NCS04 3¹/₄ × 11 × 2³/₄

4 Devices
Crouse-Hinds
by F:T•N

NJB/NCE/NCS/NCD Junction Boxes and Enclosures

Dimensions (In Inches)*

Figure 1
Dimensions:

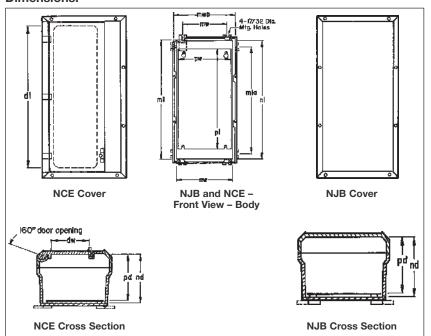
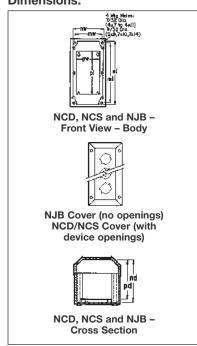


Figure 2 Dimensions:



		nal Insions	de	Plate I	Dimensior	าร	Door Op	ions	Mount Dimen		Alternat Mountir Dimens	ng
Cat. #	nw	nl	nd	pw	pl	pd	dw	dl	mw	ml	mwa	mla
Figure No. 1 (Ap	prox. wall	thickne	ss - 1/4")									
NJB101807 NCE101807	10	18	71/2	81/2	141/2	71/16	- 5 ¹¹ / ₁₆	_ 16⅓	77/8	193//8	113/8	157/8
NJB102407 NCE102407	10	24	71/2	81/2	20	71/16	- 5 ¹¹ / ₁₆	- 22 ⁷ / ₈	7 ⁷ / ₈	25¾	113/8	217/8
NJB142608 NCE142608	14	26	81/2	123/4	221/2	81/16	- 9 ¹¹ / ₁₆	- 23 ¹¹ / ₁₆	117/8	271/4	15%	233/4
NJB242608 NCE242608	24	26	81/2	20	221/2	81/16	- 19 ¹¹ / ₁₆	- 23 ¹¹ / ₁₆	213/4	271/4	251/4	25³/₄
Figure No. 2 (Ap	prox. wall	thickne	ss - 3/16")									
NJB040703 NCS01 & 2	31/4	63/4	23/4	23/4	41/2	23/8			215/16	63/8		
NCD01 NJB040704 NCD02	31/4	63/4	33/4	23/4	41/2	33/8			215/16	6³/ ₈		
NJB040903 NCS03	31/4	9	23/4	23/4	63/4	23/8			215/16	85/8		
NJB041103 NCS04	31/4	11	23/4	23/4	83/4	23/8			215/16	107/8		
NCD03 NJB041104 NCD04	31/4	11	33/4	23/4	83/4	33/8			215/16	107//8		
NJB050905	5	9	53/16	33/4	63/4	411/16			43/8	83/8		
NJB071006	7	10	61/2	53/4	71/2	61/16			6³/ ₈	93/8		
NJB071406	7	14	61/2	53/4	9	61/16			63/8	133/8		

^{*}Not to be used for construction purposes unless approved.

Corrosion-Resistant Dust-tight Watertight Weathertight NEMA 3, 4X, 12

Applications:

 NJBW instrument enclosures are used to enclose various instruments which require visual display, including ammeters, voltmeters, watt-hour meters, VAR meters, power factor meters, tachometer indicators, and various pressure and temperature controls

Features:

- Enclosure bodies are made of Eaton's Crouse-Hinds' high-impact strength Krydon® fiberglass-reinforced polyester which has excellent corrosion resistance and stability to heat
- Clear cover is a single piece of ³/₈" acrylic plastic, gasketed and attached with stainless steel torque limiting screws

Certifications and Compliances:

• NEMA 3, 4X, 12

Accessories:

- Hubs see listing on page 856
- Grounding plate or bushing see listing on page 856

Options:

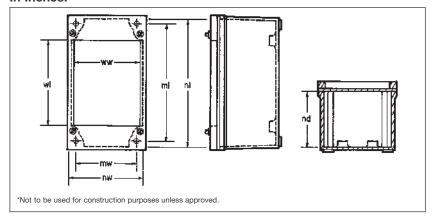
DescriptionSuffixBlank mounting platesMP



Ordering Information:

Enclosure Cat. #	Window Dimensions
NJBW050905TC	4 ¹ / ₄ x 5 ³ / ₄
NJBW071006TC	53/4 x 81/8
NJBW071406TC	5 ³ / ₄ x 12 ¹ / ₈

Dimensions* In Inches:



		nal Ins nsions		Mounting Dimensions		Window Dimensions	
Enclosure Cat. #	nw	nl	nd	mw	ml	ww	wl
NJBW050905TC	5	9	315/16	43/8	83/8	41/4	53/4
NJBW071006TC	7	10	$4^{11}/_{16}$	6³/ ₈	93/8	5 ³ / ₄	81/8
NJBW071406TC	7	14	411/16	63/8	13¾	53/4	121/8

Description	Page No.
Hubs	see page 856
Grounding Plates	see page 856
Grounding Bushings	see page 856
Drains and Breathers	see page 857
CID 101 Corrosion Inhibitor Device	see page 859
LNR Conduit Liner	see page 860
Cable Glands	See Section 4F

Enclosure Accessories -Hubs, Grounding Plates, and Grounding Bushings

Myers Hubs*

Ground Hub Basic Scru-Tite®

Zinc

ATEX Approval with DEMKO 07 ATEX 0618172U

II 2 G Ex e II UL File No. 187273

Class I, Zone 1, AEx e II Class I, Zone 1, Ex e II







Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STGK 1	1/2"	10	20
STGK 2	3/4"	10	30
STGK 3	1"	10	43
STGK 4	11/4"	5	55
STGK 5	11/2"	5	73
STGK 6	2"	5	95

Stainless Steel - Type 316

ATEX Approval with DEMKO 07 ATEX 0618172U

II 2 G Ex e II

Class I, Zone 1, AEx e II UL File No. E-187273 Class I, Zone 1, Ex e II





Nonmetallic Hubs

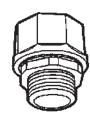
Krydon® material hubs for conduit entrances, in sizes 1/2" through 3" are available for factory or field installation in all enclosures made of Krydon material. For factory installation, send drawing showing sizes and locations of hubs. Furnished with and gaskets to assure.

Standard Materials:

- Up to 11/2" Krydon material with steel interiors
- 2", 21/2" and 3" Krydon material with Feraloy® iron alloy interiors

Standard Finishes:

- Krydon material natural
- Steel electrogalvanized and bleached chromate
- Feraloy iron alloy electrogalvanized



Conduit Size	Hole Size	Hub Cat. #
1/2	7/8	NHUB1
3/4	11/8	NHUB2
1	13/8	NHUB3
11/4	13/4	NHUB4
11/2	2	NHUB5
2	21/2	NHUB6
21/2	3	NHUB7
3	35/8	NHUB8



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100	
SSTGK 1	1/2"	10	20	
SSTGK 2	3/4"	10	30	
SSTGK 3	1	10	43	
SSTGK 4	11/4"	5	55	
SSTGK 5	1 1/2"	5	73	
SSTGK 6	2	5	95	

Metric To NPT Adapter

Zinc



Cat. #	Size	Unit Qty.	Wt. Lbs. Per 100
STM 1	M20 to 1/2"	25	12
STM 2	M25 to 3/4"	25	32
STM 3	M32 to 1"	25	32
STM 4	M40 to 11/4"	10	40
STM 5	M50 to 11/2"	10	50
STM 6	M63 to 2"	10	70

Note: The Myers Metric to NPT hub adapter is used to convert a threaded metric entry to a NPT entry. The female thread is NPT and the male thread is metric.

Metric To NPT Adapter

Stainless Steel



		Unit	Wt. Lbs.
Cat. #	Size	Qty.	Per 100
SSTM 1	M20 to 1/2"	10	12
SSTM 2	M25 to 3/4"	10	20
SSTM 3	M32 to 1"	10	32
SSTM 4	M40 to 11/4"	5	40
SSTM 5	M50 to 11/2"	5	50
SSTM 6	M63 to 2"	5	70

Grounding Plates and Grounding Bushings





Grounding Plates (1/2" through 1") and insulated bushings (1/2" through 3") permit use of the conduit as the grounding circuit. Both types have set screws and ground-wire terminals.

Standard Materials:

- · Grounding plates steel
- · Grounding bushings steel with thermoplastic insulating throat

Standard Finishes:

• Steel - electrogalvanized

Conduit Size	Grounding Plate Cat. #	Grounding Bushing Cat. #
1/2	GP1	GLS1
3/4	GP2	GLS2
1	GP3	GLS3
11/4		GLS4
11/2		GLS5
2		GLS6
21/2		GLS7
3		GLS8
*For a complete list of My	ers Hubs available from Eator	's Crouse-Hinds,

refer to Section CP.

Lineta NAVA Libra

Enclosure Accessories -Drains and Breathers

ECD Series

Cl. I, Div. 1 & 2, Groups B, C, D II 2 G Ex d IIB (ECD15) Cl. II. Div. 1. Groups E. F. G. Cl. II, Div. 2, Groups F, G CI. III

II 2 G Ex d IIB + Hydrogen (ECD Type 4X Series) **Explosionproof Dust-Ignitionproof**













Ordering Information ECD "Type 4X" **Drain and Breather**

Size	Drain Cat. #	Breather Cat. #
3/8	ECD38 N4D	ECD38 N4B
1/2	ECD1 N4D	ECD1 N4B

ECD "Standard" **Drain and Breather**

Size	Drain Cat. #	Breather Cat. #	
1/4	ECD281		
3/8	ECD387		
1/2	ECD11	ECD13	

ECD "Universal" **Drain or Breather**

Size	Cat. #
1/4	ECD284†
3/8	ECD384†
3/8	ECD385
1/2	ECD15
1/2	ECD16
+Charter aug	rall langth than ECD1E and ECD20E For

use in confined spaces such as panelboard assemblies.

ECD "Combination" Drain or Breather

Dialii oi	breattier	
Size	Cat. #	
1/2	ECD18	

Applications:

- ECD drains and breathers are installed in enclosures or conduit systems to: Provide ventilation to minimize condensation Drain accumulated condensate
- At least one breather should be used with each drain
- · A breather is installed in top of enclosure or upper section of conduit system
- . A "standard" drain is installed in bottom of enclosure or in lower section of conduit
- "Universal" breather or drain functions as a breather when mounted at the top of an enclosure, or as a drain when mounted in the bottom of an enclosure
- "Combination" breather and drain is used in those applications where the use of a top mounted breather is not practical due to limited space; or in offshore and marine installations where moisture may enter the enclosure through the breather located on top of enclosure
- · Drains and breathers are installed in hubs or drilled and tapped openings

Features:

ECD284, ECD384, ECD385 and ECD15 "Universal" drains and breathers have:

- Patented labyrinth design, suitable for use in Class I, Division 1 & 2, Groups C,D and Class II, Division 1 & 2, Groups F,G areas
- Capability to pass 50 cc of water per minute and 0.2 cubic feet or air per minute at atmospheric pressure
- ECD15 and ECD385 each have a well inside the inner, threaded end to provide for accumulation of sediment without clogging when used as a drain

"Standard" ECD drains and breathers have:

- Thread-in-thread design, suitable for use in Class I, Division 1 & 2, Groups C,D; Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G and Class III areas
- ECD 11, 13 have capability to pass 25 cc of water per minute and .05 cubic feet of air per minute at atmospheric pressure
- ECD387 and ECD16 are a unique thread-inshaft design for use in Class I, Division 1 & 2. Groups B,C,D; Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G; Class III areas. The ECD387 and ECD16 can pass 15cc of water per minute. The ECD16 can pass .01 cubic feet of air per minute

"Combination" ECD breather and drain:

- Provides ventilation to minimize condensation and drains accumulated condensate - two functions performed by a single device installed in the bottom of an enclosure or conduit system
- Have the capability to pass 25 cc of water per minute and .10 cubic feet of air per minute at atmospheric pressure
- Thread-in-thread and labyrinth design, suitable for use in Class I, Division 1 & 2, Groups C and D; Class II, Division 1 & 2, Groups F and G; and Class III areas

Certifications and **Compliances:**

NEC/CEC:

ECD 16, ECD387, ECD-N4D, ECD-N4B -

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

IP46 (ECD-N4D and ECD-N4B only) IIB + Hydrogen (ECD-N4D and ECD-N4B only)

ECD11, ECD13, ECD281 -

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

ECD18, ECD384, ECD15, ECD385 -

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups F, G Class II, Division 2, Groups F, G Class III

IP42 IIB (ECD 15 only) ECD284 -

Class III

Class I, Division 1 & 2, Group C, D Class II, Division 1, Groups F, G Class II, Division 2, Groups F, G

- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- Type 4X: ECD-N4D and ECD-N4B
- ATEX Certificate # ITS07ATEX15639U

Standard Materials:

- ECD11, ECD15, ECD281, ECD284, ECD384, ECD385 - stainless steel
- ECD13 stainless steel with aluminum cap
- ECD16, ECD-N4D, ECD-N4B stainless steel
- ECD387 stainless steel
- ECD18 stainless steel with neoprene tube

Size Ranges:

 ½" to ½" Breather



Drain

Typical installation of drain and breather in a combination motor starter

1. At least 5 full threads of drain or breather must be engaged in matching female thread, taper-tapped in accordance with NEMA/EEMAC Standard FB-1, Type NTC or National Bureau of Standards Handbook H28 Part II, Table 7.6.

 These breathers and drains can be factory installed on various explosion-proof equipment. See options on applicable equipment pages for suffixes to be used.

Applications:

CD Series drains are for use in conduit systems to:

- Drain accumulated condensate.
- Provide ventilation to minimize condensation.

Drains are installed in hubs or drilled and tapped openings.

Certifications and Compliances:

UL Standard 514B

Standard Materials:

- CD bodies and nuts steel or aluminum
- CD screen stainless steel

Standard Finishes:

• Steel - electrogalvanized with chromate treatment.

Options:

Description Suffix
Copper-free aluminum construction SA



Ordering Information

Size	Cat. #	
1/2	CD1	
3/4	CD2	

ACD Series NEMA 4X Breather/Drain

ATEX and CENELEC Range

I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only) II 2GD, E Exe II (Nylon version) CSA CI. I, Div. 2, Groups A, B, C, D, Exe II Enclosure Type 4X IP66

Applications:

• For use in enclosures to provide a method to effectively drain moisture while allowing the enclosure to breathe.

Features:

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All NEMA 4X breather/drains offer:

- Castellated locknuts that allow moisture to pass between the enclosure and the locknut to the drain holes in the fitting.
- Available in brass, stainless steel (Type 316) or 30% glass filled nylon.
- Captive "O" ring on recess of the face of the breather/drain to optimize ingress protection.
- ATEX and CSA Certified for worldwide market acceptance.
- Available with metric or NPT threads.

Certifications and Compliances:

- SIRA 99 ATEX 3050U
- I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only)
- II 2GD, E Exe II (Nylon only)
- CSA Class I, Division 2, Groups A, B, C & D, Exe II
- Enclosure Type 4X
- IP66

Operating Temperature:

• -50°C to +85°C



Ordering Information

Entry Method	Material	Cat. #
M20	Brass	ACDPEB/M20/15
M20	Stainless Steel	ACDPES/M20/15
M20	Nylon	ACDPEN/M20/15
M25	Brass	ACDPEB/M25/15
M25	Stainless Steel	ACDPES/M25/15
M25	Nylon	ACDPEN/M25/15
1/2"	Brass	ACDPEB/050NPT/15
1/2"	Stainless Steel	ACDPES/050NPT/15
3/4"	Brass	ACDPEB/075NPT/15
3/4"	Stainless Steel	ACDPES/075NPT/15

CID 101 Vapor Phase Corrosion Inhibitor Device

Applications:

CID 101 vapor phase corrosion inhibitor devices are utilized:

- During use, storage, and shipment of products to provide longterm protection for:
 - Interiors of conduit outlet bodies and boxes, junction boxes, panelboards, and enclosures for motor control and circuit breakers, control stations, instrumentation, and switches interiors of level sensors, speed responsive switches, and various monitoring/alarm systems interiors of pipes, conduits, and wireways electrical and electronic controls and components
- Within enclosures, indoors, or outdoors at petroleum refineries, chemical and petrochemical plants, food processing plants, and various other process industry facilities where airborne corrosion presents problems
- In onshore and offshore marine environments to protect against salt spray and excessive humidity condensation

Features:

Provide widespread protection for ferrous and nonferrous metals including steel, copper, aluminum, brass, solder, silver, etc.

- Particularly well-suited for protection of electrical and electronic equipment because the vapors emitted do not change the characteristics of metals they are protecting – not chemically, electrically, or metallurgically. Contact resistance, conductivity, or other properties of sensitive electrical/electronic equipment is unaffected
- Extend life of product and minimize downtime from product failures caused by corrosive attack. Early corrosion symptoms can be avoided before visible signs appear (i.e., electrical shorts, intermittent operation, apparent poor connections, evidences of increased friction, visible dulling of metallic finishes, higher noise levels of moving parts, increased heat generation, etc.)
- Under normal usage, provide continuous protection of one cubic foot of enclosed space against corrosion for up to two years.
 Actual operating life expectancy may vary depending on the corrosive atmosphere, temperature, or air movement. For severe exposures at high temperatures use double the normal amount of CID 101
- Quickly and easily installed without need for tools, or requiring special surface preparation, oiling, spraying, or dipping. The device is simply removed from its plastic bag and affixed into position through use of a pressure-sensitive adhesive. A convenient to use label is provided as a reminder to note the date of installation and when its replacement should be scheduled
- Safe to use. Vapors released are regarded as non-toxic under use conditions; and the polyurethane foam material is flame-retardant





Packaging/Storage:

- CID 101 Corrosion Inhibitor Devices are individually packaged in sealed plastic bags to ensure their maximum corrosion protection value at time of installation
- Recommended storage is in the sealed plastic bags as supplied. Ideal ambient storage temperatures should not exceed 30°C (86°F). Shelf life under normal conditions is 1 year. Continuous service temperatures in excess of 150°F (65°C) should be avoided
- CID 101 Corrosion Inhibitor Devices are shipped in standard cartons of 50 units† each. Carton shipping weight is .7 lbs

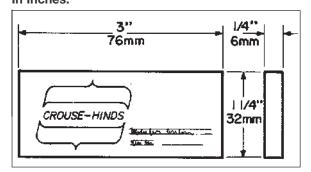
Certifications and Compliances:

 Food and Drug Administration conformance. CFR Title 21 178.3300

Ordering Information

Description	Cat. #
Vapor Phase Corrosion Inhibitor Device	CID101†

Dimensions In Inches:



†Order quantity of one (1) equals one standard carton of 50 units

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Applications:

LNR conduit liners are installed in rigid metal conduit or IMC:

- To provide a smooth wire entry from conduit into enclosures to protect wires from abrasion as they are pulled
- With thin wall or thick wall enclosures
- Entering drilled and tapped openings or slip holes
- Entering an enclosure vertically or horizontally
- Regardless of where the conduit ends in relation to the enclosure wall

Features:

- UL listed and CSA certified
- No need for threaded bushings, reducers, or special machining
- Corrosion and heat resistant polypropylene material
- Smooth flange providing easy wire pulling and protects conductors being installed
- Space saving
- Molded ribs ensure a tight fit, preventing the liner from sliding out while conductors are being pulled
- Quick and easy to install

Certifications and Compliances:

- UL Standard 514B
- CSA Standard C22.2 No. 18
- U.S. Patent No. 5,383,688

Standard Materials:

Polypropylene

Standard Finishes:

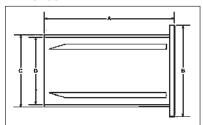
Natural (clear)

Sizes:

• 1/2" through 4"



Dimensions In Inches:



Cat. #	Size	Α	В	С	D
LNR1	1/2"	13/16"	7/8"	5/8"	9/16"
LNR2	3/4"	19/16"	11/8"	13/16"	3/4"
LNR3	1"	21/16"	13/8"	1 1/ ₁₆ "	7/8"
LNR4	11/4"	21/16"	13/4"	13/8"	11/4"
LNR5	11/2"	29/16"	2"	15/8"	17/16"
LNR6	2"	29/16"	27/16"	21/16"	17/8"
LNR7	21/2"	27/8"	27/16"	21/4"	
LNR8	3"	27/8"	39/16"	31/16"	27/8"
LNR9	31/2"	31/16"	41/16"	39/16"	33/8"
LNR10	4"	31/16"	49/16"	4"	37/8"

Industrial Lighting Section L

Advanced technology, expert support, global certifications, and an unmatched selection of proven solutions combine to deliver superior illumination, increased safety, and the lowest possible cost of ownership.



New Products in the Lighting Product Line

- Hazard•Gard® EVLL Series Explosionproof LED Luminaires
- Hazard•Gard® LPL Series Explosionproof LED Luminaires
- LL48 Linear LED Luminaires
- Champ® FMV LED Series Floodlight Fixtures
- Champ® Pro PVM Series
- Champ® Pro PFM Series
- Champ® Pro PFM Series 25L and 50L LED Floodlights
- Vaporgard™ Pro P2L Series
- Industrial High Bay LED Series Luminaires
- Endure™ LED Wall Pack

Saction

0001101
2L
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2L

2L 2L

2L

Notable changes to the Lighting section of this catalog

• Section 3L now contains both hazardous/non-hazardous HID luminaires and induction lighting (previously 3L & 5L)

Industrial Lighting

Table of Contents

Section L of the Eaton's Crouse-Hinds Catalog contains information on industrial

Product details on individual luminaires are given in ten separate sections, as noted

Considerations for Selection

Preceding the ten product sections is a Selector Guide. Included in this section is information on:

- A selection of the appropriate light source for a given application
- · A Quick Selector Guide of the luminaires that are designed and approved to meet the various environmental requirements of the National Electric Code
- Determining the proper size (i.e., wattage) and number of units to achieve the desired light levels in a given application
- Methods to follow in making a luminaire layout. Cat. Nos. are shown, in many cases, for complete assemblies including mounting, reflector, globe, and guard, as well as individual components. In these cases, ordering can be done by component or by complete assembly. Photometric and other technical data is

included in each section for the luminaires it contains

Information relating to product families in the Lighting Section is shown as follows:

Section 1L **Incandescent Lighting**

(for use in hazardous [classified] and nonhazardous locations)

EVI Series Vaporgard™ Series

EV Series V Series

NDA Corro•Gard™ Series

Section 2L **LED Luminaires**

(for use in hazardous [classified] locations, non-hazardous locations, and marine locations)

EV LED Series

Hazard • Gard® EVLL Series

Hazard•Gard LPL Series

LL48 Series Champ® VMV LED Series

Champ® FMV LED Series

Vaporgard™ LED Series

N2LPS Light-Pak™ Series

Ex-Lite Series **CCH UX Series**

Champ® Pro PVM Series

Champ® Pro PFM Series

Vaporgard™ Pro P2L Series Industrial High Bay LED Series

Endure™ LED Series

Section 3L

High Intensity Discharge (H.I.D.) Lighting - Enclosed and Gasketed

(for use in hazardous [classified] locations, non-hazardous locations, and marine locations)

Indoor and outdoor vaportight luminaires for use in applications where dirt,

moisture, and corrosion problems exist. Included are units with integral ballasts.

Champ® VMV Series Champ® LMV Series

Champ® DMV Series

VMVIG/DMVIG Series

Champ® N2MV Series Champ® NVMV Series

Section 4L

High Intensity Discharge (H.I.D.) Liahtina

(for use in hazardous [classified] locations) Indoor and outdoor luminaires and accessories. Included are luminaires with

integral ballasts. Hazard•Gard® EVLS

Hazard • Gard® EVLP

Hazard•Gard® EVM

Section 5L

Fluorescent Lighting

(for use in hazardous [classified] locations and non-hazardous locations) Indoor and outdoor fluorescent luminaires and accessories for application in all

classes of hazardous and non-hazardous locations.

For hazardous For non-hazardous locations locations

CPMVF NFL

EVF. EVFDR VF Vaporgard Series FVN, FVS

EVFT, DMVF N2MVF. EVLPF VF, eLLK, nLLK

eLLB20

Section 6L **Floodlights**

(for use in hazardous [classified] locations and non-hazardous locations) Champ® FMV Series

CPMV Champ-Pak™ Wall Pack EVMA-S812 Hazard • Gard® Series

F2MV, FMV1000

FZD RCDE

SSFMV Voyager nR™

Section 7L

Luminaire Hangers and Accessories

(for use in hazardous [classified] locations and non-hazardous locations)

A variety of luminaire hangers for use with the luminaires listed. Information on mounting accessories required and typical luminaire weights also included.

For hazardous For non-hazardous

locations locations EAHC, EFHC ΑL EC AHG EFH ARB GUA, GUF FHM

UNR UNE, UNH, UNHC

CPS UNJ UNJC

Section 8L Portable Lighting

A variety of portable luminaires for hazardous and non-hazardous applications.

VS EVH **RCDER FVP**

Section 9L **Emergency Lighting**

(for use in hazardous [classified] locations) Emergency lighting for use in power outage situations. Also, exit signs and strobe warning lights. N2LPS Light-Pak™ Series

CPMVFB EXL Exit Šign DMVFB ELPS Light-Pak™ Series N2MVFB Fx-Lite EVLPFB CCH UX Series

Section 10L **Specialty Lighting**

Luminaires for use in applications where conventional lighting is not acceptable due to size and/or location, such as tank, instrument, and gauge applications. For hazardous For non-hazardous

locations locations EV - tank lights V Observation

FVTI

ELG - gauge light

Quick Reference Chart

	Light Source				Emergency & Warning	WallPacks & Floodlights
Application Environment	LED	Incandescent	H.I.D. / Induction Pulse Start Metal Halide Metal Halide High Pressure Sodium	Fluorescent Linear Long Twin Tube Compact	Exit Signs Emergency Lighting	Pulse Start Metal Halide Metal Halide High Pressure Sodium Incandescent
General Industrial	Section 2L Champ® Pro PVM Series, Champ® Pro PFM Series, Vaporgard™ Pro P2L Series, Industrial High Bay	Section 1L Vaporgard™, V Series, NDA Section 11L V160 Tank light	Section 3L LMV, DMV, VMV, N2MV Champ®, Champ Induction	Section 5L VF Series, NFL, FVN, FVS, DMVF, N2MVF	Section 2L Ex-Lite, CCH UX, N2LPS Light- Pak TM Section 9L DMVFB, N2MVFB	Section 6L F2MV, FMV, FMV1000
Marine/Wet Locations or 4X	Section 2L Champ® VMV LED, Vaporgard™ LED, EV LED	Section 1L NDA	Section 3L LMV, DMV, VMV, N2MV Champ® Section 4L EVLP, EVM Hazard•Gard®	Section 5L NFL, FVS, DMVF, N2MVF, CPMVF, EVFDR, EVFT Illuminator™	Section 2L Ex-Lite, CCH UX Section 9L DMVFB	Section 6L CPMV, F2MV, FMV, FMV1000
Corrosive	Section 2L Champ® VMV LED, Vaporgard™ LED, EV LED	Section 1L Vaporgard™, NDA	Section 3L LMV, DMV, VMV, N2MV Champ®, Champ Induction	Section 5L NFL, N2MVF, FVS, VF Series, DMVF, CPMVF	Section 2L Ex-Lite, CCH UX, N2LPS Light- Pak™ Section 9L DMVF-EXD Exit, N2MVFB, DMVFB	Section 6L CPMV, F2MV, FMV, FMV1000
Class I, Div. 1 or Zone 1	Section 2L EV LED, EVLL, LPL	Section 1L EV Section 10L EVTL, EVA160, EVO, ELG	Section 4L EVLP, EVLS, EVM Hazard•Gard®	Section 5L EVF, EVFDR, EVFT Illuminator™, EVLPF, eLLK	Section 9L EXL Exit, EVLPF-EXD Exit, ELPS Light-Pak™, EVLPFB	Section 6L FZD, EVM-S812, RCDE
Class I, Div. 2 and Zone 2	Section 2L Champ® VMV LED, Vaporgard™ LED, Champ® FMV LED, LL48	Section 1L Vaporgard™, NDA	Section 3L LMV, DMV, VMV, N2MV Champ®, Champ Induction	Section 5L VF Series, NFL, nLLK, eLLK, FVN, FVS, CPMVF, DMVF, N2MVF	Section 2L Ex-Lite Section 9L DMVF-EXD Exit, N2LPS Light- Pak™, DMVFB, N2MVFB	Section 6L CPMV, F2MV, FMV, FMV1000, FZD
Restricted Breathing Class I, Div 2 and Zone 2 Certified IEC Zone 2	Section 2L Champ® VMV LED, Champ® NFMV LED, Vaporgard™ NV2L LED		Section 3L LMV, DMV, VMV, N2MV Champ®, Champ Induction	Section 5L CPMVF, DMVF, N2MVF	Section 9L DMVFB, N2MVFB	Section 6L CPMV, F2MV, FMV
Class II Class III Simultaneous Presence	Section 2L Champ® VMV LED, EV LED, Vaporgard™ LED, Champ® FMV LED, EVLL	Section 1L EV Section 10L EVTL, EVO	Section 3L LMV, DMV, VMV, N2MV Champ®, Champ Induction Section 4L EVLP, EVM Hazard•Gard®	Section 5L FVN, nLLK, eLLK, FVS, DMVF, N2MVF, EVF, EVFDR, EVFT, EVLP	Section 2L Ex-Lite Section 9L EXL, N2LPS Light- Pak™, DMVFB, N2MVFB, ELPS Light-Pak™	Section 6L CPMV
Paint Spray			Section 8L EVP	Section 5L EVF, EVFT		
Portables		Section 8L VS, EVH, RCDER	Section 8L EVP	Section 8L EVH		

L Industrial Lighting Products

Lighting Layout Services

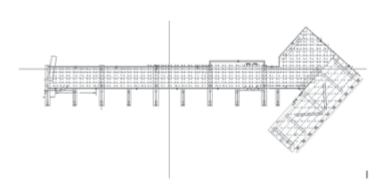
Lighting Application and Design

In the past, engineers had to calculate lighting layouts and design using complex mathematical formulas - also known as the "Lumen Method" and "Point-By-Point" Method. Today, there are software programs that can easily run these calculations very quickly. Lighting layouts, analysis, and design from Eaton's Crouse-Hinds deliver a real competitive advantage. For over 100 years, Eaton's Crouse-Hinds has been providing hazardous area lighting solutions. Our light fittings are manufactured to the highest standards and will provide years of reliable service and performance under the harshest conditions.

Lighting Software

Eaton's Crouse-Hinds' Luxicon Pro™ software program makes it very easy to perform lighting calculations and create professional quality designs. Our latest version, LUXICON® 2.5.25, is distributed free of charge and includes a tutorial to introduce users to its operation and several "Wizards" that will assist in a step-by-step process to create your own lighting design. You can also add in objects that will account for light inference caused by equipment, walls, and other obstructions in the work area. It will also provide detail point-by-point calculations and statistical analysis.

LuxiconProTM

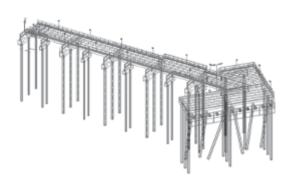


Point-by-point light calculation in plan view

Lighting Layout Services

Need help with a more complex lighting design or analysis?

Then take advantage of our free lighting design service. Our lighting designers can provide you with lighting layouts for more complex projects that will interface with the latest version of AutoCAD drawings and will provide a more detailed lighting analysis.



Calculations shown with light fixture placement



Illuminance rendering

Mercury Vapor Luminaires -Discontinuation Notice

Eaton's Crouse-Hinds no longer produces luminaires containing Mercury Vapor ballasts in any of our U.S. facilities.

In 2005, the U.S. government signed the Energy Policy Act of 2005. The law, commonly referred to as EPACT 2005, contained many new changes in requirements for energy production, energy transportation, and energy efficiency. One of those changes calls for the elimination of manufacturing and importation of Mercury Vapor (MV) ballasts in the United States after January 1, 2008.

Mercury Vapor ballasts have lower lumens per watt than alternative HID light sources and are far less energy-efficient than LED, High Pressure Sodium (HPS), or Metal Halide (MH) ballasts. As demand for energy-efficient lighting grows, we expect a subsequent drop in the usage of Mercury Vapor ballasts globally. This could lead to longer lead times and potentially worldwide discontinuation at some point in the future.

Eaton's Crouse-Hinds suggests the use of alternative technologies, such as LED, that provide better efficacy, color rendering, length of life, and environmentally friendlier solutions. Alternative HID light sources, such as High Pressure Sodium or Metal Halide, are also viable product solutions.

While we recommend switching to an alternative light source, there are many countries in the world that still allow the use of Mercury Vapor ballasts. As long as the ballasts and lamps remain available, we can still offer Mercury Vapor luminaires out of our manufacturing facilities located outside of the United States. The Mercury Vapor luminaires will be manufactured in our Eaton's Crouse-Hinds Mexico facility and shipped directly from there.

For available Mercury Vapor products, please contact customer service.



Alternative S	olutions	;	
Luminaire Type	Hours	Lumens	Lumens per Watt
LED			
VMV / PVM			
41W	60,000	3,515	77.39
67W	60,000	5,288	78.93
94W	60,000	7,404	78.77
114W	60,000	9,515	83.47
118W	60,000	10,935	92.67
FMV / PFM 64W	60,000	4,386	68.53
89W	60,000	6,720	75.51
121W	60,000	8,478	70.07
149W	60,000	10,420	69.93
179W	60,000	12,940	72.29
V2L / P2L	,	,	
22W	60,000	1,633	74.23
EV LED			
30W	60,000	1,670	55.67
36W	60,000	2,248	62.44
EVLL 80W	60,000	5,625	70.30
100W	60,000	6,750	67.50
130W	60,000	9,000	69.23
151W	60,000	10,500	69.54
175W	60,000	13,500	77.14
High Pressure Sod	ium 24,000	9,500	95.00
250W	24,000	28,500	114.00
400W	24,000	50,000	125.00
1000W	24,000	140,000	140.00
	•	,	
Metal Halide			
175W	10,000	13,500	77.00
250W	20,000	20,500	82.00
400W	20,000	36,000	90.00
1000W	12,000	110,000	110.00
Pulse Start Metal H	lalide		
175W	15,000	16,000	91.00
250W	15,000	23,800	95.00
400W	20,000	44,000	100.00
Induction			
55W	100,000	3,500	63.00
85W	100,000	6,000	70.00
165W	100,000	12,000	72.00
Mercury Vapor			
100W	24,000	4,100	34.00
175W	24,000	7,900	45.00
250W	24,000	12,100	48.00
400W	24,000	21,000	52.00
1000W	24,000	57,500	57.00

L Lamps Used With Eaton's Crouse-Hinds Luminaires

Lamp Watts	ANSI Ballast		Manufacturer							
			Lamp Catal	og Number						
		GE	Osram/Sylvania	Phillips	Venture					
ligh Pressur	e Sodium									
50	S68	LU50/MED	LU50/MED	C50S68/M						
70	S62	LU70/MED	LU70/MED	C70S62/M						
100	S54	LU100/MED	LU100/MED	C100S54/M						
150	S55	LU150/MED	LU150/MED	C150S55/M						
letal Halide										
70	M98	MXR70/U/MED	MP70/U/MED	MHC70/U/M/3K	MH70W/U					
100	M90	MXR100/U/MED	MP100/U/MED	MHC100/U/M/3K	MH100W/U					
175*	M57	MVR175/U/MED	M175/U/MED	MH175/U/M						
ulse Start M	letal Halide									
150	M102	MXR150/U/MED	MP150/U/MED		MH150W/U/PS					
175	M137	MXR175/VBU/MED/PA			MS175W/BU/MED/PS					

^{*}For export only.

Lamps Used With Eaton's Crouse-Hinds Luminaires

Lamp Watts	ANSI Ballast		Manufa	acturer		Manufacturer				
			Lumens/	Life (hrs)			Ві	ılb		
		GE	O/S	PH	Venture	GE	O/S	PH	Venture	
High Pressu	ligh Pressure Sodium									
50	S68	4000/24K	4000/24K	4000/24K		B17	E17	ED17		
70	S62	6400/24K	6300/24K	6300/24K		B17	E17	ED17		
100	S54	9500/24K	9500/24K	9500/24K		B17	E17	ED17		
150	S55	16000/24K	15800/24K	16000/24K		B17	E17	ED17		
Metal Halid	e									
70	M98	5500/12K	5200/15K	6200/10K	5600/15K	BD17	E17	ED17	ED17	
100	M90	9000/15K	8500/15K	9300/12.5K	9000/15K	BD17	E17	ED17	ED17	
175*	M57	13600/10K	14400/10K	13500/10K		BD17	ED17	ED17		
Pulse Start	Pulse Start Metal Halide									
150	M102	12500/15K	13300/15K		14000/15K	BD17	E17		ED17	
175	M137	17700/15K			17500/15K	BD17	E17		ED17	

^{*}For export only.

Lamps Used With Eaton's Crouse-Hinds **Luminaires**

H.I.D. Mogul Base Series - DMV, VMV, CPMV, FMV, F2MV, EVLP_0, FZD

Lamp Watts	ANSI Ballast		Manuf	acturer	
		GE	Osram/Sylvania	Phillips	Venture
h Pressure	Sodium				
50	S68	LU50	LU50	C50S68	
70	S62	LU70	LU70	C70S62	
100	S54	LU100	LU100	C100S54	
150	S55	LU150/55	LU150/55	C150S55	
== ((= = = = = = = = = = = = = = = = =	0.50				T
50 (100V)	S56	LU150/100	LU150/100	C150S56	
200	S66	LU200	LU200	C200S66	
250	S50	LU250	LU250	C250S50	
310	S67	LU310	LU310	C310S67	
400	S51	LU400	LU400	C400S51	
1000	S52	LU1000	LU1000	C1000S52	
tal Halide	1400				
70	M98				MH70W/U/ED28
100	M90			MHC100/U/ED28/HR/4K	MH100W/U/ED28
175*	M57	MVR175/U	M175/U	MH175/U	
250*	M58	MVR250/U	M250U	MH250/U	
400*	M59	MVR400/U	M400/U	MH400/U	
400*	M59	MVR400/U/ED28	M400/U/BT-28	MH400/U/ED28	
1000	M47	MVR1000/U	M1000/U	MH1000/U	
1500	M48	MVR1500/HBD	M1500/BD	MH1500/BD	
lse Start M	atal Halida		(Base up +/- 15%)	(Base up +/- 15%)	
		7	(Base up +/- 15 /0)		T
150	M102			CDM150/U/PS/4K ALTO	MH150W/U/ED28/PS
175	M137	MXR175/VBU/PA		MS175/BU/PS	MS175W/BU/PS
200	M136				MH200W/U/PS
250	M138	MXR250/VBU/PA		MS250/BU/PS	MH250W/HBU/PS
	M138	MVD000 // / / / / / / / / / / / / / / / /	140000 (70 (714 0	11000011/701/705	MH250W/HBD/PS
320	M132	MXR320/VBU/PA	MS320/PS/BU-ONLY	MS320W/BU/PS	MH320W/U/ED28/PS
350	M131				MH350W/U/PS
400	M131	MVD400/4/D11/D4	MC400/DC/DLL CNUX	MC400/DLL/DC	MH350W/U/ED28/PS
400	M135	MXR400/VBU/PA	MS400/PS/BU-ONLY	MS400/BU/PS	MH400W/HBU/PS
	M135				MH400W/HBD/PS
	M135				MH400W/HBU/ED28/F
1000	M135				MH400W/HBD/ED28/F
1000	M141				
Double C	ontact Me	tal Halide for EVP Series			

70W *For export only.

Lamps Used With Eaton's Crouse-Hinds Luminaires

H.I.D. Mogul Base Series - DMV, VMV, CPMV, FMV, F2MV, EVM, EVLP_0, FZD

ANSI Ballast	Manufacturer				Manufacturer					
		Lumens/l	_ife (hrs)			В	ılb			
	GE	O/S	PH	Venture	GE	O/S	PH	Venture		
dium										
S68	4000/24K	4000/24K	4000/24K		ED23 1/2	ET23 1/2	ED23 1/2			
S62	6400/24K	6300/24K	6300/24K		ED23 1/2	ET23 ½	ED23 1/2			
	9500/24K	9500/24K	9500/24K			ET23 1/2	ED23 1/2			
S52	140000/24K	130000/24K	140000/24K		E25	E25	E25			
M98				5600/15K				ED28		
M90				9000/15K				ED28		
M57	13600/10K	14400/10K	13500/10K		ED28	BT28	ED28			
M58	20800/10K	22000/10K	20500/20K		ED28	BT28	ED28			
M59	36000/20K	36000/20K	36000/20K		ED37	BT37	ED37			
M59	36000/20K	36000/20K	36000/20K		ED28		ED28			
M47	105000/12K	110000/15K	110000/12K							
M48	155000/3K	155000/3K	165000/3K		BT56	BT56	BT56			
	dium S68 S62 S54 S55 S56 S50 S67 S51 S52 M98 M90 M57 M58 M59 M47	GE dium S68	GE O/S dium S68	Color	Color	Column	Column	Column		

150 175	M102 M137	17200/15K		13000/24K 16000/15K	14000/15K 17500/15K	ED23 1/2		ED23 ½ ED28	ED28 ED28
200	M136				21000/15K				ED28
250	M138	23000/15K		23800/15K	25000/15K	ED28		ED28	ED28
000	M138	04000/451/	00000/001/		25000/15K	FDOO	DTOO	FDOO	ED28
320	M132	31000/15K	32000/20K		33000/20K	ED28	BT28	ED28	ED28
350	M131				37000/20K				ED37
	M131				37000/20K				ED28
400	M135	44000/20K	41000/20K	44000/20K	44000/20K	ED37	BT37	ED37	ED37
	M135				44000/20K				ED37
	M135								ED28
	M135				44000/20K				ED28
1000	M141				1.000,2011				



L Lamps Used With Eaton's Crouse-Hinds Luminaires

Lamp Watts	Base	Luminaire Series	Manufacturer		
			GE	Osram/Sylvania	Phillips

Compact

	1	1			
5W-T4	G23	VF	F5BX/SPX41/840	CF5DS/841	PL-S5W/27
7W-T4	G23	VF	F7BX/SPX35/835	CF7DS/835	PL-S7W/35
9W-T4	G23	VF	F9BX/SPX35/835	CF9DS/835	PL-S9W/35
13W-T4	GX23-2	DMVF (Discontinued)	F13DBX23T4/SPX35	CF13DD/835	PL-C13W/35/USA
26W-T4	GX24q-3	DMVF, N2MVF, CPMVF, EVLPF	F26TBX/SPX35/A/4P	CF26DT/E/IN/835	PL-T26W/35/4P/ALTO
32W-T4	GX24q-3	DMVF, N2MVF, CPMVF, EVLPF	F32TBX/SPX35/A/4P	CF32DT/E/IN/835	PL-T32W/35/4P/ALTO
42W-T4	GX24q-4	DMVF, N2MVF, CPMVF, EVLPF	F42QBX/SPX35/A/4P	CF42DT/E/IN/835	PL-T42W/35/4P/ALTO

Long Twin Tube

39	2G11	EVFT	F39/36/BX/SPX35	FT36DL/835	PL-L36W/35
40	2G11	NFL, FVS	F40/30BX/SPX35	FT40DL/835/RS	PL-L40W/35/RS

Linear

32W-T8	Medium Bipin	NFL, FVN, EVF, EVFDR	F32T8/SP35	F032/735	F32T8/TL735/ALTO
40 (34) W-T12	Medium Bipin	NFL, FVN, EVF, EVFDR	F40CW/RS/WM	F40CW/SS	F40CW/RS/EW/ALTO
54W-T5HO	Miniature Bipin	FVN	F54T5/841/WH/ECO	HO54W/835	F54T5/830/HO/ALTO
60W (800ma)-T12 High Output	Recessed Double Contact	FVN, EVF, EVFDR	F48T12/CW/HO	F48T12/CW/HO	F48T12/CW/HO
110W (1500ma)-T12 Very High Output	Recessed Double Contact	EVF, EVFDR	F48T12/CW/1500	F48T12/CW/VHO	F48T12/CW/VHO

Lamps Used With Eaton's Crouse-Hinds Luminaires

Lamp Watts	Base	Luminaire Series	Manufacturer				
			Lumens/Life (Hrs)				
			GE Osram/Sylvania Philli		Phillips		

Compact

5W-T4	G23	VF	250/10K	230/10K	250/10K
7W-T4	G23	VF	400/10K	400/10K	400/10K
9W-T4	G23	VF	600/10K	580/10K	600/10K
13W-T4	GX23-2	DMVF (Discontinued)	810/10K	780/10K	860/10K
26W-T4	GX24q-3	DMVF, N2MVF, CPMVF, EVLPF	1800/10K	1800/10K	1800/10K
32W-T4	GX24q-3	DMVF, N2MVF, CPMVF, EVLPF	2200/10K	2400/10K	2400/10K
42W-T4	GX24q-4	DMVF, N2MVF, CPMVF, EVLPF	3200/10K	3200/10K	3200/10K

Long Twin Tube

39	2G11	EVFT	2850/12K	2900/12K	2900/12K
40	2G11	NFL, FVS	3150/20K	3150/20K	3150/20K

Linear

32W-T8	Medium Bipin	NFL, FVN, EVF, EVFDR	2850/20K	2800/20K	2850/20K
40 (34) W-T12	Medium Bipin	NFL, FVN, EVF, EVFDR	2650/20K	2700/20K	2650/20K
54W-T5HO	Miniature Bipin	FVN	4600/30K	4450/24K	4750/35K
60W (800ma)-T12 High Output	Recessed Double Contact	FVN, EVF, EVFDR	4050/12K	4050/12K	4050/12K
110W (1500ma)-T12 Very High Output	Recessed Double Contact	EVF, EVFDR	6200/10K	6600/10K	7050/12K

L Lamps Used With Eaton's Crouse-Hinds Luminaires

Max Watts And Bulb Type	Luminaire Series		Manufacturer	
		GE	Osram/Sylvania	Phillips
25W T10	EXLD	25T10	25T10	25T10
50W PAR20	EVTL	50PAR20/H/SP10 50PAR20/H/FL25	50PAR20/CAP/NSP 50PAR20/CAP/NFL	50PAR20/HAL/NSP9 50PAR20/HAL/NFL30
52W A19 58W A19	ELG ELG	60A52WMP/98	60A52WMP/98 60A52/SS/XL 58A19/62	
60W T10	EXL	60T10	60T10	60T10
65W BR30	EVO2376	75R30/SP/65WM	65BR30/SP	65BR30/SP20
75W ER30	EVO2376	75ER30	75ER30	75ER30
100W A19	EV 40 Series / EVI	100A (IF)	100A (IF)	100A (IF)
100W A21	V160, EV160, EVH, EV 15 Series / EVI	100A21 (IF)	100A21 (IF)	100A21 (IF)
100W A23	VS	100A23 120V	100A23	100A23
100W D.C. Bay	Suffix QTZ	Q100CL/DC	100Q/CL/DC	100Q/CL/DC
150W A21	Vaporgard 150W EV 10 Series / EVI EV 20 Series	150A (IF)	150A (IF)	150A (IF)
150W A23	V Series		150A23 (IF)	150A23/CL
150W PAR38	RCDE6		150PAR/FL	150PAR38/2FL
200W A23	Vaporgard 200W EV 10 Series / EVI		200A23 (IF)	200A (IF)
200W A25	Vaporgard 200W EV 15 Series / EVI			200A25/35
200W PS25	EV 15 Series / EVI		200PS25/99XL	
200W PS30	EV 20 Series / EVI EV 30 Series / EVI	200 130V	200PS/CL 130V	200 130V
300W PS25	Vaporgard 300W NDA EV 15 Series / EVI	300М		300M
300W PS30	Vaporgard 300W EV 20 Series / EVI EV 15 Series / EVI	300M/99 (130v)	300M/CL	300M/PS30
300W R40	RCDE6	300R/FL	300R40/FL	300BR/FL
300W PS35	EV 30 Series / EVI	300	300/CL	300
500W PS40	EV 30 Series / EVI	500PS40		500PS40
500W PAR64	RCDE10	500PAR64/MFL	500PAR64/MFL	500PAR64/MFL

Lamps Used With Eaton's Crouse-Hinds Luminaires

Max Watts And Bulb Type		Manufacturer			Manufacturer			
		Lumens			Life-Hours			
	GE	O/S	PH	GE	O/S	PH		
25W T10	248	232	260	1000	1000	1000		
50W PAR20	570 570	530 530	550 550	2500 2500	2500 2500	2000 2000		
52W A19	670	650	564	2500	2500	4250		
58W A19	630	630	630	3000	3000	3000		
60W T10	740	630	745	1000	1000	1000		
65W BR30	775	640		2000	2000	2000		
75W ER30	850	750		2000	2000	2000		
100W A19	1710	1750	1650	750	750	750		
100W A21	1710	1690	1680	750	750	750		
100W A23	1600		1730	750	750	750		
100W D.C. Bay	1600	1600	1600	2000	2000	2000		
150W A21	2850	2780	2850	750	750	750		
150W A23		2810	2475		750	1275		
150W PAR38	1660	1660	1660	2000	2000	2000		
200W A23		3930	3800		750	750		
200W A25	2720	2720	2720	3500	3500	3500		
200W PS25	3000	3000	3000	2500	2500	2500		
200W PS30	2725	2665	2825	1950	1875	2120		
300W PS25	6200		6280	750	750	750		
300W PS30	3935	5870	6100	6800	7500	7500		
300W R40	3700	3030	np	2000	2000	2000		
300W PS35	5820	5700	5700	1000	1000	1000		
500W PS40	9900	10100	10100	1000	1000	1000		
500W PAR64	6500			2000	2000	2000		

L Ballasts Used With Eaton's Crouse-Hinds Luminaires

	ANSI		Туре	Starting	Operating	Input	
Watts	Code	Volts	R/HX/CWA	Current	Current	Watts	Kit Cat. #
		120	R-HPF	1.0	0.6	62	CHRBS050/120
50	S68	120 / 277	HX-HPF	0.7/0.3	0.6/0.3	66	CHRBS050/DT
		t220/240-50 Hz	HX-HPF	0.3/0.3	0.6/0.6	66	CHRBS050/220 50
		120	R-HPF	0.9	0.8	86	CHRBS070/120
		120/208/240/277	HX-HPF	0.8/0.5/0.4/0.4	0.8/0.5/0.4/0.4	91	CHRBS070/MT
70	S62	120/277/347	HX-HPF	.8/.4/.3	0.8/0.4/0.3	93	CHRBS070/MT
		220	HX-HPF	0.4	0.4	91	CHRBS070/220
		480	HX-HPF	0.2	0.2	93	CHRBS070/480
		220/240–50 Hz	HX-HPF	.5/.4	.5/.4	94	CHRBS070/220 50
		100					
		120	R-HPF	1.5	1.1	115	CHRBS100/120
		120/208/240/277	HX-HPF	1.3/0.8/0.7/0.6	1.2/0.7/0.6/0.5	130	CHRBS100/MT
100	S54	120/277/347	HX-HPF	1.3/0.6/0.5	1.2/0.5/0.4	130	CHRBS100/TT
		220 480	HX-HPF HX-HPF	0.7 0.4	0.6 0.3	130 130	CHRBS100/220 CHRBS100/480
		460 220/240–50 Hz	HX-HPF	0.5/0.5	0.7/0.6	130	CHRBS100/460 CHRBS100/220 50
		220/240-00 HZ	11/7-1111	0.0/0.0	0.1/0.0	100	5.111DG100/220 00
		100	D LIDE	2.3	1.5	170	OUDD0450/400
		120 120/208/240/277	R-HPF HX-HPF	2.3	1.7/1.0/0.8/0.7	170 188	CHRBS150/120 CHRBS150/MT
450		120/277/347	HX-HPF	2.0/0.9/0.5	1.7/0.7/0.6	188	CHRBS150/MT
150 (55v)	S55	220	HX-HPF	1.1	0.9	188	CHRBS150/220
(001)		480	HX-HPF	0.5	0.4	188	CHRBS150/480
		220/240-50 Hz	HX-HPF	0.9/0.8	0.9/0.8	188	CHRBS150/220 50
		120/208/240/277	CWA	1.2/0.7/0.6/.05	1.8/1.0/0.9/0.8	188	CHRBS150/MT CE
150	S56	480	CWA	0.3	0.4	188	CHRBS150/480 CE
(100v)	000	220/240-50 Hz	R-HPF	0.9/1.0	0.9/0.8	175	CHRBS150/220 50 CE
		120/208/240/277	CWA	1.4/0.8/0.7/0.6	2.4/1.4/1.2/1.0	250	CHRBS200/MT
200	S66	480	CWA	0.4	0.6	250	CHRBS/200/480
'		120	CWA	1.7	2.5	295	CHRBS250/120
		120/208/240/277	CWA	1.7/1.0/0.8/0.7	2.5/1.5/1.3/1.1	295	CHRBS250/MT
050	050	120/277/347	CWA	1.7/0.7/0.6	2.7/1.2/0.9	295	CHRBS250/TT
250	S50	220	CWA	0.9	1.5	295	CHRBS250/220
		480	CWA	0.4	0.7	310	CHRBS250/480
		230-50 Hz	CWA	1.0	1.4	300	CHRBS250/220 50
		120	CWA	3.3	3.8	457	CHRBS400/120
		120/208/240/277	CWA	3.3/1.8/1.5/1.4	3.8/2.2/1.9/1.7	464	CHRBS400/MT
400	S51	120/277/347	CWA	3.3/1.4/1.0	3.8/1.7/1.3	464	CHRBS400/TT
400	JJ 1	220	CWA	1.6	2.1	457	CHRBS400/220
		480	CWA	0.8	1.0	464	CHRBS400/480
		230–50 Hz	CWA	1.9	2.0	465	CHRBS400/220 50
		120/208/240/277	CWA	6.4/3.8/3.2/2.8	9.5/5.5/4.8/4.2	1100	CHRBS1000/MT
		120/277/347	CWA	6.4/2.8/2.2	9.5/4.2/3.3	1100	CHRBS1000/TT
1000	S52	220	CWA	3.6	5.0	1100	CHRBS1000/220
		480	CWA	1.6	2.3	1100	CHRBS1000/480
		220/240-50 Hz	CWA	6.0/5.6	5.2/4.8	1100	CHRBS1000/220 50

Ballasts Used With Eaton's Crouse-Hinds Luminaires

Watts	ANSI Code	Volts	Type R/HX/CWA	Starting Current	Operating Current	Input Watts	Kit Cat. #
		: 22/000/040/077	LIVLUDE	. 0/4 0/0 0/0 0	: 0/4 0/0 0/0 7	105	0:1001450/MT0000
150	M102	120/208/240/277 120/277/347/480	HX-HPF HX-HPF	1.8/1.3/0.9/0.8 1.8/0.8/0.7	1.6/1.0/0.8/0.7 1.6/0.7/0.6	185 185	CHRBM150/MTS828 CHRBM150/TTS828
		120/208/240/277	Super CWA	1.0/0.6/0.5/0.4	1.8/1.1/0.9/0.8	208	CHRBM175/MTS828
175*	M137	120/208/240/277	Super CWA	1.0/0.6/0.5/0.4	1.8/1.1/0.9/0.8	208	CHRBMVMV175/MTS828**
		120/277/347/480	Super CWA	0.8/0.4/0.3	1.9/0.8/0.7	208	CHRBM175/TTS828
		100/000/040/077	Our or OMA	0.0/0.4/0.4/0.0	2.0/1.0/1.0/0.0	000	CURRANOO /MTCCCC
	14400	120/208/240/277 120/277/347	Super CWA	0.8/0.4/0.4/0.3 0.7/0.3/0.3	2.0/1.2/1.0/0.9	232 232	CHRBM200/MTS828
200*	M136		Super CWA		2.1/0.9/0.7		CHRBM200/TTS828
		480	Super CWA	0.2	0.5	232	CHRBM200/480S828
		120/208/240/277	Super CWA	2.3/1.3/1.2/1.0	2.5/1.5/1.3/1.1	288	CHRBM250/MTS828
250*	M138	120/277/347	Super CWA	2.0/0.9/0.8	2.5/1.1/0.9	290	CHRBM250/TTS828
		120/208/240/277	Super CWA	1.8/1.1/0.9/0.8	3.3/1.9/1.7/1.4	368	CHRBM250/MTS828
		120/277/347	Super CWA	2.2/1.0/0.7	3.3/1.4/1.1	368	CHRBM250/TTS828
320*	M132	220	Super CWA	1.4	1.7	365	CHRBM250/220S828
		480	Super CWA	0.5	0.8	368	CHRBM250/480S828
		230 / 50	Super CWA	1.1	1.6	365	CHRBM250/220 50S828
		120/208/240/277	Super CWA	2.9/1.7/1.5/1.3	3.8/2.2/1.9/1.7	452	CHRBM400/MT S828
400*	M135	120/277/347	Super CWA	3.2/1.4/1.1	3.8/1.7/1.4	450	CHRBM400/TTS828
400	IVITOO	480	Super CWA	0.8	1.0	452	CHRBM400/480S828
		230 / 50	Super CWA	2.0	2.1	454	CHRBM400/220 50S828
		100/000/040/077	2	7.0/4.0/0.7/0.0	2.0/5.0/4.5/0.0	1000	011DD144000/14T0000
		120/208/240/277 347	Super CWA	7.8/4.0/3.7/3.2 2.3	9.0/5.2/4.5/3.9	1080 1075	CHRBM1000/MTS828
1000	M141		Super CWA		3.2		CHRBM1000/347S828
		480	Super CWA	1.7	2.4	1075	CHRBM1000/480S828
		220/240–50 Hz	CWA	4.5/4.1	5.0/4.5	1090	CHRBM1000/220 50S828

^{*}EISA compliant.

^{**}For VMV replacement only.

L Ballasts Used With Eaton's Crouse-Hinds Luminaires

Watts	ANSI Code	Volts	Type R/HX/CWA	Starting Current	Operating Current	Input Watts	Kit Cat. #
70	M98	120/208/240/277 120/277/347 220	HX-HPF HX-HPE HX-HPF	0.6/0.3/0.3/0.3 0.6/0.2/0.2 0.4	0.8/0.5/0.4/0.4 0.8/0.4/0.3 0.5	88 88 94	CHRBM070/MT CHRBM070/TT CHRBM070/220
		220/240-50 Hz	HX-HPF	0.7/0.6	0.5/0.4	95	CHRBM070/220 50
		120/208/240/277	HX-HPF	1.2/0.8/0.7/0.6	1.2/0.7/0.6/0.5	129	CHRBM100/MT
100	M90	120/277/347 220	HX-HPF HX-HPF	1.2/0.5/0.4 0.9	1.2/0.5/0.4 0.6	129 129	CHRBM100/TT CHRBM100/220
100	11100	480	HX-HPF HX-HPF	0.3 0.7/0.7	0.3 0.7/0.6	132 129	CHRBM100/480
		220/240–50 Hz	HX-HPF	0.7/0.7	0.7/0.6	129	CHRBM100/220 50
		120 120/208/240/277	CWA CWA	1.3 1.3/0.8/0.7/0.6	1.8 1.8/1.1/0.9/0.8	210 210	CHRBM175/120 CHRBM175/MT
4==+		120/206/240/277	CWA	1.3/0.6/0.7	1.8/0.8/0.7	210	CHRBM175/WI
175*	M57	220	CWA	0.6	1.0	210	CHRBM175/220
		480 230 / 50	CWA CWA	0.4 0.8	0.5 1.1	210 210	CHRBM175/480 CHRBM175/220 50
		230 / 30	OWA	0.0	1.1	210	OTTABINI173/220 30
		120	CWA	1.0	2.6	294	CHRBM250/120
		120/208/240/277 120/277/347	CWA CWA	1.0/0.6/0.5/0.5 2.2/1.0/0.8	2.6/1.5/1.3/1.1 2.5/1.1/0.9	294 295	CHRBM250/MT CHRBM250/TT
250*	M58	220	CWA	1.4	1.5	295	CHRBM250/220
		480	CWA	0.6	0.6	295	CHRBM250/480
		230 / 50	CWA	1.0	1.3	290	CHRBM250/220 50
		120	CWA	3.0	4.0	456	CHRBM400/120
		120/208/240/277	CWA	3.5/2.0/1.8/1.5	4.0/2.2/2.0/1.8	458	CHRBM400/MT
400*	M59	120/277/347 220	CWA CWA	3.5/1.5/1.2 1.9	4.0/1.8/1.4 2.2	460 458	CHRBM400/TT CHRBM400/220
		480	CWA	0.9	1.0	462	CHRBM400/480
		230 / 50	CWA	1.4	2.1	462	CHRBM400/220 50
		120/208/240/277	CWA	7.8/4.0/3.7/3.2	9.0/5.2/4.5/3.9	1080	CHRBM1000/MT
		120/277/347	CWA	7.8/3.2/2.5	9.0/3.9/3.2	1080	CHRBM1000/TT
1000	M47	220	CWA	3.9	4.9	1080	CHRBM1000/220
		480 220/240–50 Hz	CWA CWA	1.9 4.5/4.1	2.3 5.0/4.5	1080 1090	CHRBM1000/480 CHRBM1000/220 50
		220/240-30 HZ	OVVA	7.0/7.1	0.0/4.0	1000	0.111DW11000/220 00
		120/208/240/277	CWA	13.4/7.7/6.7/5.7	13.5/7.8/6.8/5.9	1605	CHRBM1500/MT
1500	M48	120/277/347 220	CWA CWA	13.4/5.7/4.6 7.3	13.5/5.9/4.8 7.4	1615 1605	CHRBM1500/TT CHRBM1500/220
1300	17140	480	CWA	7.3 3.3	3.4	1625	CHRBM1500/220 CHRBM1500/480
		220/240-50 Hz	CWA	6.9/6.3	7.5/6.9	1605	CHRBM1500/220 50

^{*}Must purchase directly from Advance.

Ballasts Used With Eaton's Crouse-Hinds Luminaires

Luminaire Series	Lamp Type & Watts	Lamp Base	Lamp No. Qty.	Ballast Voltage	Starting Operating Amp	Input Watts	Kit Cat. #
	Compact	_					
VF	9W T4	G23	2	120	0.4	22	CHRBF2C018/120
	26W T4	GX24q-3	2	120	0.5	55	CHRBF4C084/UNV
I				220 / 240	0.3	55 55	
DMVF.	26W T4 26W T4	GX24q-3 GX24q-3	2 2	220 / 240 277	0.3 0.2	55 55	CHRBF4C084/UNV
N2MVF,	26W T4	GX24q-3 GX24a-3	2	277 347	0.2	55 44	CHRBF4C084/UNV CHRBF4C084/347
EVLPF	26W T4	GX24q-3 GX24q-3	2 2	347 DC 12V	0.2 3.6	44 43	CHRBF4C084/347 CHRBF4C084/12VDC
EVLFF	26W T4	GX24q-3 GX24q-3	2	DC 12V DC 24V	3.6 1.8	43	CHRBF4C084/12VDC
I							
	26W T4	GX24q-3	2	DC 125V	0.67	55	CHRBF4C084/UNV
	32W T4	GX24q-3	2	120	0.6	68	CHRBF4C084/UNV
I	32W T4	GX24a-3	2	220 / 240	0.3	68	CHRBF4C084/UNV
DMVF,	32W T4	GX24q-3	2	277	0.3	68	CHRBF4C084/UNV
N2MVF,	32W T4	GX24q-3	2	347	0.2	62	CHRBF4C084/347
EVLPF	32W T4	GX24q-3	2 2 2	DC 12V	4.4	60	CHRBF4C084/12VDC
	32W T4	GX24q-3	2	DC 24V	2.2	60	CHRBF4C084/24VDC
I	32W T4	GX24q-3	2	DC 125V	0.67	68	CHRBF4C084/UNV
	42W T4	GX24q-4	2	120	8.0	93	CHRBF4C084/120
CPMVF,	42W T4	GX24q-4	2	277	0.3	68	CHRBF4C084/277
DMVF	42W T4	GX24q-4	2	347	0.3	80	CHRBF4C084/347
	42W T4	GX24q-4	2	DC 125V	0.67	93	CHRBF4C084/UNV
	Long Twin Tube	1					
	40W T5	2G11	1	120	0.4	42	CHRBFT80/UNV
, ,	40W T5	2G11	1	277	0.2	42	CHRBFT80/UNV
NFL	40W T5	2G11	i	347	0.1	44	CHRBFT80/347
ļ	40W T5	2G11	1	120 - 277	0.2	41	CHRBFT80/UNV
	1004/75	1 0011		100	- 0.0	70	OUDDETOON/UNIV
ļ	40W T5	2G11	2	120	0.6	76	CHRBFT080/UNV
FVS	40W T5	2G11	2	277	0.3	73	CHRBFT080/UNV
	40W T5	2G11	2	347	0.2	70	CHRBFT080/347
	40W T5	2G11	2	120 - 277	0.3	74	CHRBFT080/UNV
	36/39W	2G11	2	120	0.6	74	CHRBFT078/120
EVFT	36/39W	2G11	2	277	0.3	74	CHRBFT078/277
,	36/39W	2G11	2	220 / 240	0.3	71	CHRBFT078/220

Note:

For 3 lamp luminaires, order one 1 lamp ballast and one 2 lamp, lamp ballast. Add current and watts values.

For 4 lamp luminaires, order two 2 lamp, lamp ballasts. Double currents and watts values.

Ballasts Used With Eaton's Crouse-Hinds Luminaires

Luminaire Series	Lamp Type & Watts	Lamp Base	Lamp No. Qty.	Ballast Voltage	Starting Operating Amp	Input Watts	Kit Cat. #
	LINEAR						
	32W T8	Med Bipin	1	120	0.3	35	CHRBFL064/UNV
	32W T8	Med Bipin	1	277	0.2	35	CHRBFL064/UNV
	32W T8	Med Bipin	1	347	0.1	32	CHRBFL64/347
NFL, FVN,	32W T8	Med Bipin	1	220 / 240	0.3	38	CHRBFL064/UNV
EVF & EVFDR	32W T8	Med Bipin	2	120	0.5	58	CHRBFL064/UNV
LVIDI	32W T8	Med Bipin	2	277	0.2	58	CHRBFL064/UNV
	32W T8	Med Bipin	2	347	0.1	50	CHRBFL64/347
	32W T8	Med Bipin	2	220	0.4	58	CHRBFL064/UNV
	40(34W)T12	Med Bipin	1	120	0.4	46	CHRBFL080/120
	40(34W)T12	Med Bipin	1	277	0.2	46	CHRBFL080/277
	40(34W)T12	Med Bipin	1	347	0.2	52	CHRBFL40/347
NFL, FVN,	40(34W)T12	Med Bipin	1	220 50	0.2	51	CHRBFL40/220 50
EVF & EVFDR	40(34W)T12	Med Bipin	2	120	0.6	73	CHRBFL080/120
LVIDI	40(34W)T12	Med Bipin	2	277	0.3	80	CHRBFL080/277
	40(34W)T12	Med Bipin	2	347	0.2	62	CHRBFL80/347
	40(34W)T12	Med Bipin	2	220 / 240	0.2	71	CHRBFL80/220
FVN	54W T5 HO	Med Bipin	2	120 / 277	1.03 / 0.43	120/117	CHRBFL054/UNV
	60W (800ma) T12 HO	Recessed Double Contact	1	120	0.9	79	CHFBFL120/120
FVN,	60W (800ma) T12 HO	Recessed Double Contact	1	277	0.5	82	CHFBFL120/277
EVF &	60W (800ma) T12 HO	Recessed Double Contact	1	220 50	0.7	140	CHFBFL120/220 50
EVFDR	60W (800ma) T12 HO	Recessed Double Contact	2	120	1.2	133	CHFBFL120/120
	60W (800ma) T12 HO	Recessed Double Contact	2	277	0.5	131	CHFBFL120/277
	60W (800ma) T12 HO	Recessed Double Contact	2	220 50	1.0	224	CHFBFL120/220 50
	110W (1500ma) T12 VHO	Recessed Double Contact	1	120	1.7	130	CHRBFL220/120
EVF &	110W (1500ma) T12 VHO	Recessed Double Contact	1	277	0.6	137	CHRBFL220/277
EVFDR	110W (1500ma) T12 VHO	Recessed Double Contact	2	120	2.2	230	CHRBFL220/120
	110W (1500ma) T12 VHO	Recessed Double Contact	2	277	0.9	241	CHRBFL220/277

Note:

For 3 lamp luminaires, order one 1 lamp ballast and one 2 lamp, lamp ballast. Add current and watts values. For 4 lamp luminaires, order two 2 lamp, lamp ballasts. Double currents and watts values.

Incandescent Luminaires Hazardous and Non-hazardous

Description	Page No.
Application	see page 880
Class I, Division 1 Hazardous Area Luminaires	
EVI Series	
Groups C, D	see pages 881-889
EV Series	
Groups A, B, C, D	see page 890
Class I, Division 2 and Industrial Luminaires	
Vaporgard™ Series	see page 891
V Series	see page 900
NDA Corro∙Gard™ Series	see page 904

General Information

Applications:

Incandescent luminaires are used:

- Indoors or outdoors in industrial locations; for general area or spot lighting
- In tunnels, building entrances or similar locations, where moisture, dirt, chemicals, vibration or rough usage are a problem
- Either mounted directly in the conduit system or attached to cast outlet boxes, by means of pendant, ceiling, wall bracket or stanchion mountings
- In areas made hazardous by presence of flammable vapors, gases, or dusts

Considerations for Selection:

Environmental:

• What is the area classification (NEC)/(CEC) of the location in which the luminaires will be installed?

Lighting levels required:

• What wattage fixture(s) will provide the desired light level?

Physical arrangement:

• Type of luminaire mounting needed

Table 500.8(C) Identification Numbers

Maximum Temperature		Temp. Class	
Deg. C	Deg. F	(T Code)	
450	842	T1	
300	572	T2	
280	536	T2A	
260	500	T2B	
230	446	T2C	
215	419	T2D	
200	392	Т3	
180	356	T3A	
165	329	T3B	
160	320	T3C	
135	275	T4	
120	248	T4A	
100	212	T5	
85	185	T6	

=

EVI Series Explosionproof Incandescent Luminaires

Factory Sealed 100–500W Medium and Mogul Base

Cl. I, Div. 1, Groups C, D Cl. I, Zone 1 & 2, Group IIB Cl. II, Groups E, F, G (Max 150W–Med. base)

CI. III & Simultaneous Presence (Max 150W–Med. base) Marine and Wet Locations Type 4X; IP66

Applications:

EVI series incandescent luminaires are used:

- For Type 4X, marine, wet location and hose down environments.
- Where a consistent light level relatively unaffected by extremes in ambient temperature (-40°C to +65°C) is required.
- In areas that require lamps to reach full illumination immediately.
- In areas that require lamps to be frequently turned on and off.
- Indoors and outdoors in locations which are hazardous due to the presence of flammable vapors or gases, ignitible dusts, or ignitible fibers and flyings.
- Where a luminaire is required for tough environmental conditions involving corrosives, water, dust and extreme temperatures.
- Manufacturing plants, heavy industrial facilities, industrial process facilities such as refineries, chemical, petrochemical, pharmaceutical and platforms.
- For lighting of loading docks, tunnels, stairways, storage closets and task lighting.

Features:

- Ambient suitability to 65°C.
- Standard 90°C rated building wire for 150W max 40°C ambient application – represents more than 75% of all applications.
- Type 4X, marine outdoor locations.
- Factory sealed no external seals required.
- Quick connect fixture threads onto the mounting module for easy installation.
- One size luminaire for all medium base incandescent lamps through 300W.
- One size luminaire for all mogul base incandescent lamps through 500W.
- Small compact size ceiling mount is 13³/₄" long.
- Shock absorbing receptacle.
- Easy to assemble and relamp.
- · Silicone gaskets seal out dirt and moisture.
- Epoxy powder coat for corrosion resistance.
- Same mounting modules as used with the EVM and EVLP series.

Certifications and Compliances:

NEC & CEC:

Class I, Division 1, Groups C, D Class I, Zone 1, Group IIB Class II, Groups E, F, G Marine Locations, Wet Locations, Enclosure Type 4X, IP66

- UL Listed
- cUL Listed (Certified by UL to CSA Standards)
- NFC:

Class III; Simultaneous Presence

UL Standards:

844 Electric Fixture Hangers for Hazardous Locations

1598 Luminaires

1598A Luminaires for Installation on Marine Vessels

 CSA Standards: C22.2 No. 137

Standard Materials:

- Body, mounting modules and guard copper-free aluminum
- Globe heat and impact-resistant glass
- Gaskets silicone
- External hardware stainless steel
- Reflectors Krydon® fiberglass-reinforced polyester

Standard Finishes:

- Copper-free aluminum Corro-free[™] epoxy powder coat
- Stainless steel Natural
- Krydon® reflectors High reflectance white

Electrical Ratings:

Sources/Wattages

- Medium Base Maximum 300W (PS25)
- Mogul Base Maximum 500W (PS40)

Voltages

- Medium Base 120V (250V with suffix /250)
- Mogul Base 277V

Hub Size

- 3/4" or 1" NPT pendant, ceiling, wall mount
- 3/4" NPT bulkhead mount

Options:

Description

Suffix

 250V luminaire for export applications (medium base only)

/250

Accessories:

 Reflectors – For Ordering by Components see page 883.



EVI Series Explosionproof 1L Incandescent Luminaires

Factory Sealed 100-500W Medium and Mogul Base

Cl. I, Div. 1, Groups C, D Cl. I, Zone 1 & 2, Group IIB (Max 150W-Med. base) Cl. II, Groups E, F, G (Max 150W-Med. base)

Cl. III & Simultaneous Presence Marine and Wet Locations Type 4X; IP66

	Mounting Style	Hub Size	EVI301 Series Medium Base with EV505 Guard (Max. 300W PS25)	EVI501 Series Mogul Base with EV503 Guard (Max. 500W PS40)
	Pendant Mount	%" 1"	EVIA2301 EVIA3301	EVIA2501 EVIA3501
6	Ceiling Mount	³ / ₄ " 1"	EVICX2301 EVICX3301	EVICX2501 EVICX3501
	Wall Mount	⁹ / ₄ " 1"	EVIBX2301 EVIBX3301	EVIBX2501 EVIBX3501
	Bulkhead Mount	3/4" 1"	EVIBH2301 —	- -
	Stanchion Mount	11/4"	EVIJ4301	EVIJ4501
	Luminaire with Guard Less Mounting Module		EVI301	EVI501

Note: Medium base luminaires (EVI301 Series) – For A19 lamps up to 100W, use Leviton socket extension Leviton catalog number 2005.

Mogul base luminaires (EVI501 Series) – For PS30 medium base lamps, use Eaton's Wiring Devices socket adapter catalog number 332.

1L

EVI Series Explosionproof Incandescent Luminaires

Factory Sealed 100–500W Medium and Mogul Base

EVI Luminaires are available in components.

A complete luminaire consists of:

- I. Mounting Module
- II. EVI Luminaire Body and Globe Assembly
- III. Guard, Reflector

I. Mounting Module:

Туре	Conduit	Cat. #
Pendant	³/₄" 1"	EVMP2 EVMP3
Ceiling and Wall Box	³/₄" 1"	EV22 EV33
Wall Bracket Arm	3/4" 1"	EV22 & EV87 EV33 & EV87
Stanchion	11/4"	EVMJ4
Bulk Head	3/4"	EVIJ2

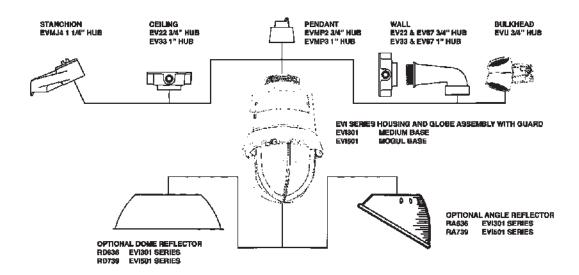
II. Luminaire Body and Globe Assembly with Guard:

Туре	Cat. #
Medium Base	EVI301
Mogul Base	EVI501

III. Guards and Reflectors:

Туре	Cat. #
Guard - Fits EVI301 Series (medium base)	EV505
Guard - Fits EVI501 Series (mogul base)	EV503
Dome Reflector – Fits EVI301 Series (medium base)	RD636
Angle Reflector - Fits EVI301 Series (medium base)	RA636
Dome Reflector – Fits EVI501 Series (mogul base)	RD739
Angle Reflector - Fits EVI501 Series (mogul base)	RA739

Factory Sealed 100–500W Medium and Mogul Base



Temperature Performance Data:

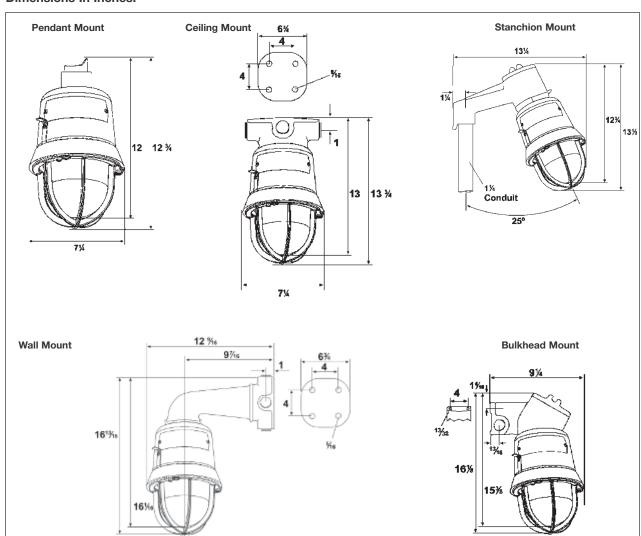
		Class I, Div. 1 (Class I, Zone 1)			Simultaneous Class II Presence		Supply Wire Temp (°C)		
Туре	Watts/Lamp	Ambie	nt		Ambient	Ambient	Ambien	t	
		40°C	55°C	65°C	40°C	40°C	40°C	55°C	65°C
EVI301	100W/A21 or A19	T4	T3C	T3C	T3C	T3C	90°C	105°C	125°C
Medium	150W/A21	T4	T3C	T3C	T3C	T3C	90°C	105°C	125°C
Base	200W/A23 or A25	T3	T2D	T2C	_	_	105°C	125°C	125°C
	300W/PS25	T3	T2D	T2C	_	_	105°C	125°C	125°C
EVI501	200W/PS30	T4A	T4	T4	T3A	T3A	90°C	90°C	105°C
Mogul	300W/PS35	T4	T3C	T3C	_	_	90°C	90°C	105°C
Rase	500W/PS40	T3A	T3	T3	_	_	105°C	125°C	125°C

EVI Series Explosionproof Incandescent Luminaires

Factory Sealed 100–500W Medium and Mogul Base

Medium Base EVI Luminaire

Dimensions In Inches:



Medium Base Net Luminaire Weights (lbs.):

EVI301 with guard 11 lbs.

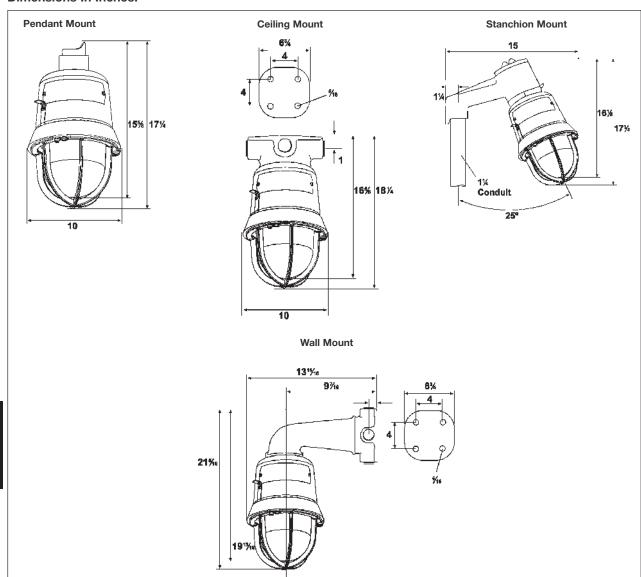
Add mounting modules:		Add for reflectors:	
Pendant	1.0 lbs.	RD636 (Dome Reflector, Small)	1.5 lbs.
Ceiling	2.0 lbs.	RA636 (Angle Reflector, Small)	1.0 lbs.
Wall	4.5 lbs.	RD739 (Dome Reflector, Small)	2.0 lbs.
Bulkhead	2.2 lbs.	RA739 (Angle Reflector, Small)	1.4 lbs.
Stanchion	2.5 lbs.		

1L

EVI Series Explosionproof Incandescent Luminaires

Factory Sealed 100-500W Medium and Mogul Base

Mogul Base EVI Luminaire Dimensions In Inches:



Mogul Base Net Luminaire Weights (lbs.):

EVI501 with guard 24 lbs.

Add mounting modules:		Add for reflectors:	
Pendant	1.0 lbs.	RD636 (Dome Reflector, Small)	
Ceiling	2.0 lbs.	RA636 (Angle Reflector, Small)	
Wall	4.5 lbs.	RD739 (Dome Reflector, Small)	
Bulkhead	2.2 lbs.	RA739 (Angle Reflector, Small)	
Stanchion	2.5 lbs.		

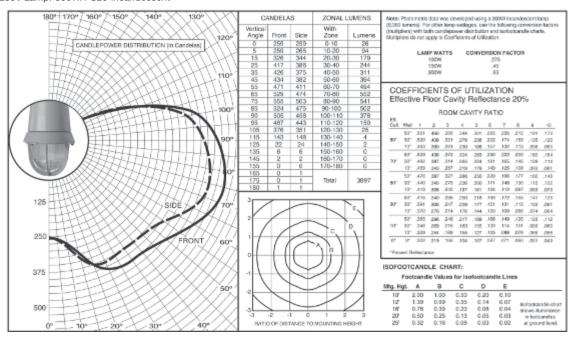
1.5 lbs. 1.0 lbs. 2.0 lbs. 1.4 lbs.

EVI Series Explosionproof Incandescent Luminaires

Factory Sealed 100–500W Medium and Mogul Base

Medium Base

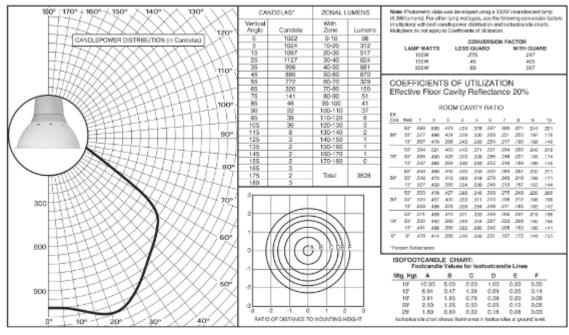
Luminaire with Globe and Guard EVICX2301 Lamp: 300W/PS25 Incandescent



Medium Base

Luminaire with Globe and Dome Reflector (Less Guard)

EVICX2300 Lamp: 300W/PS25 Incandescent



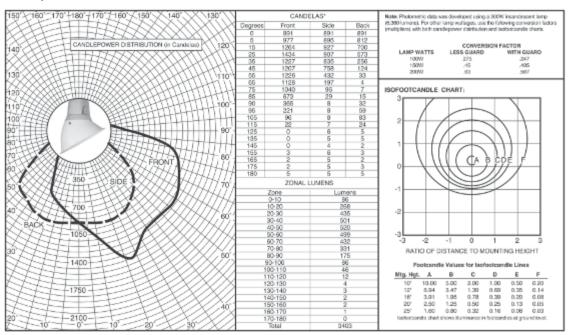
1L EVI Series Explosionproof Incandescent Luminaires

Factory Sealed 100-500W Medium and Mogul Base

Medium Base

Luminaire with Globe and 30° Angle Reflector (Less Guard)

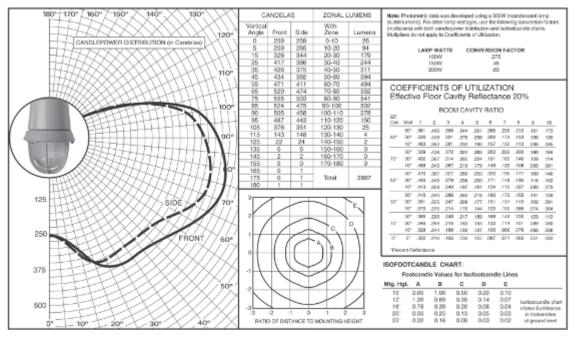
EVICX2300 Lamp: 300W/PS25 Incandescent



Mogul Base

Luminaire with Globe and Guard

EVIA2501 Lamp: 500W/PS40 Incandescent



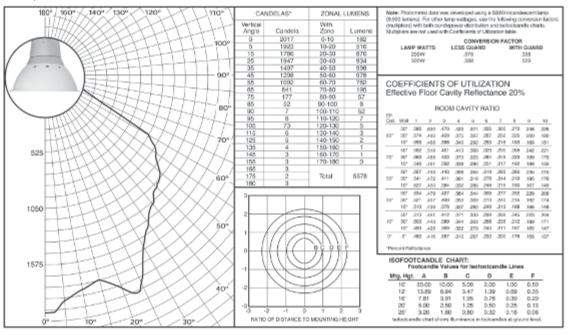
EVI Series Explosionproof Incandescent Luminaires

Factory Sealed 100–500W Medium and Mogul Base

Mogul Base

Luminaire with Globe and Dome Reflector (Less Guard)

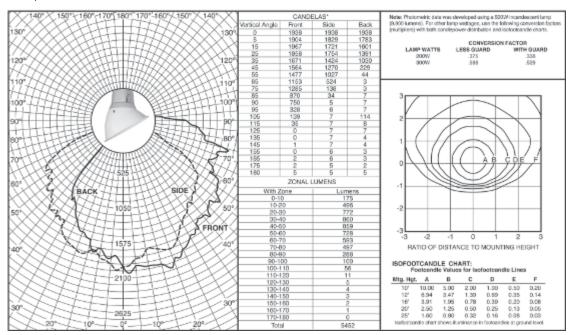
EVIA2500 Lamp: 500W/PS40 Incandescent



Mogul Base

Luminaire with Globe and Angle Reflector (Less Guard)

EVIA2500 Lamp: 500W/PS40 Incandescent



1L EV Incandescent Luminaires

Factory Sealed

Cl. I, Div. 1 and 2, Groups A, B, C, D — Pendant Mount Cl. I, Div. 1 and 2, Groups B, C, D — Ceiling and Bracket Mount Wet Locations NEMA 3, 3R

Applications:

EV292 Series luminaires are used:

- To provide incandescent lighting in locations made hazardous due to the presence of hydrogen, gases or vapors of an equivalent hazard, such as manufactured gas
- Hydrogen areas of process industries, missile bases where hydrogen fuel is used and gas manufacturing plants
- · In areas of lesser hazard than indicated above
- EVA292 pendant mount luminaire is also suitable for use in locations made hazardous due to the presence of acetylene

Features:

- Flametight threaded joints no external seal needed
- Easy to assemble and relamp
- Shock absorbing receptacle
- · Gasket seals out dirt and liquids
- Positive locking of globe holder
- Heat and impact resistant globe
- Inner reflector eliminates upward spill light
- Lightweight
- · Corrosion resistant
- Dome and 30° angle reflectors available

Certifications and Compliances:

• NEC/CEC:

Class I, Divisions 1 and 2, Groups A, B, C, D – pendant mount Class I, Divisions 1 and 2, Groups B, C, D – ceiling and bracket mount

- UL Standard: 844
- CSA Standard: C22.2 No. 137

Standard Materials:

- Globes heat and impact resistant glass
- Luminaire and bracket arm copper-free aluminum
- Reflectors Krydon® fiberglass-reinforced polyester
- Back box Feraloy® iron alloy

Standard Finishes:

- Aluminum epoxy powder coat
- Krydon high reflectance white
- Feraloy electrogalvanized and aluminum acrylic paint

Size Ranges:

• 3/4" conduit hub

Capacity Ranges:

• 300 watt, PS-30 medium base lamps

Temperature Performance Data:

Style	Class I UL	Ambient Temp. °C	Supply Wire °C
Pendant	T3A	25 / 40	150°C
Ceiling	T3A	25 / 40	150°C
Bracket	T3A	25 / 40	150°C







Pendant style with RD725 dome reflector

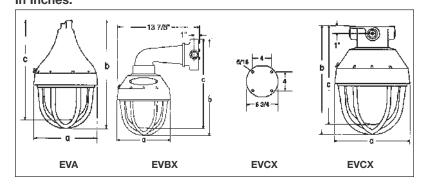
Pendant style with RA725 30° angle reflector

Pendant style without reflector

Ordering Information:

Style	Max. Lamp Size		Hub Size (In.)	Without Reflector Cat. #	Dome Reflector Cat. #	30° Angle Reflector Cat. #
Pendant	300 watt, PS-30 (medium base)	With Guard	3/4	EVA292	RD725	RA725
Ceiling	300 watt, PS-30 (medium base)	With Guard	3/4	EVCX292	RD725	RA725
Bracket	300 watt, PS-30 (medium base)	With Guard	3/4	EVBX292	Not Applica	ble

Dimensions In Inches:



	EVA	EVBX	EVCX	Reflector Type	Diameter
а	87/8	87/8	87/8		
b	163/8	181/8	14³/ ₈	Dome	16"
С	147/8	165/8	127/8	30° Angle	16"

Note: Photometric curves and data are the same as shown for EV Groups C, D series.

VAPORGARD™ Incandescent Luminaires

CI. I, Div. 2, Groups A, B, C, D (All mounting except stanchion) Wet Locations NEMA 3, 3R

Applications:

Vaporgard series incandescent luminaires are used:

- Indoors or outdoors in industrial locations where enclosed and gasketed fixtures are required
- In tunnels, building entrances and similar locations, where moisture, dirt, chemicals, vibration or rough usage are a problem
- For flush or surface mounting on ceiling or wall; pendant or in conduit systems; with or without a cast outlet box

Features:

- Designed to exclude dirt, moisture and corrosive vapors from the interior of the luminaires and the conduit system
- There are no screws to remove as the shock-absorbing socket strap is keyhole slotted and removes quickly for ease of wiring
- The glass globe-guard assembly is installed and/or removed as a unit, making it necessary to handle only one piece in relamping
- There are no crevices to accumulate a dirt or dust build-up and fixture has an attractive finish with a smooth, dust and dirt shedding design
- Configurated glass globe has vertical fluting and stippled bottom which provides for more even light distribution and glare elimination
- For non-hazardous locations, shatterproof plastic polycarbonate globes are available for use with the 200 watt series
- Reversible offset socket mounting strap permits use of various size lamps while holding light center in same position for maximum light output and efficiency
- Shock absorbing medium base lamp socket

Krydon® fiberglass-reinforced polyester reflectors:

- Reflectance is equivalent to the finest porcelain enamel
- Cannot corrode no enamel to chip and rust
- Ultraviolet inhibitors are incorporated in the material to prevent discoloration and brittleness

Certifications and Compliances:

- Wet locations
- NEC/CEC: Class I, Division 2
- UL Standard: 1598
- CSA Standard: C22.2 No. 9
- UL/CSA Fixture Fitting

Standard Materials:

- Bodies and guards copper-free aluminum
- Globes
- -Heat and impact resistant tempered glass
- -Colored glass non-tempered
- (G55, G56, G57, G58)
 -Plastic polycarbonate
- (G63, G65, G67)

 Reflectors Krydon® fiberglassreinforced polyester

Standard Finishes:

- Bodies and guards epoxy powder coat
- Krydon material high reflectance white

Options:

The following options are available from the factory by adding suffix to fixture Cat. No.:

Description	Suffix
 Teflon coating on globe 	
for increased shatter	
protection (G24 globe	
200 watt series only)	S808
• 250V namonlata for	

Ratings (Electrical/Size):

- Up to 300 watt, PS-30 medium base lamp
- ½" to 1½" hubs
- 120V nameplate is standard for NEC compliance
- 250V nameplate is optional. Supplied when ordered with suffix: /250

Class I, Division 2 Temperature Performance Data: (Based on 40°C ambient)

Lamp Watts	T-Number	Supply Wire °C
150	T2A	150°C
200	T2B	200°C
300	T2B	150°C



1L VAPORGARD™ Incandescent Luminaires

Cl. I, Div. 2, Groups A, B, C, D Wet Locations NEMA 3, 3R

Enclosed and Gasketed

Pendant Mount – VDA Series



				Luminaire C	omponents Cat. #s		
Hub Size	Series	Max. Lamp Size	Complete Cat. # with globe/guard	Pendant Body	Globe	Guard	
1/2" 3/4" 1 "	150 150 150	150 watt A-21	VDA15GP VDA25GP VDA35GP	VDA15 VDA25 VDA35	G54 G54 G54	P50 P50 P50	
1/2" 3/4" 1"	200 200 200	200 watt A-23	VDA12GP VDA22GP VDA32GP	VDA12 VDA22 VDA32	G24 G24 G24	P21 P21 P21	
1/2 " 3/4 " 1 "	300 300 300	300 watt PS-25 & PS-30	VDA13GP VDA23GP VDA33GP	VDA13 VDA23 VDA33	G34/G251 G34/G251 G34/G251	P22 P22 P22	

Thru-Feed – VDC Series



					Luminaire Co	mponents Cat	. #S	
	lub ize	Series	Max. Lamp Size	Complete Cat. # with globe/guard	Thru-Feed Body	Globe	Guard	
1/2	or 3/4"	150	150 watt A-21	VDC25GP	VDC25	G54	P50	
1/2	or 3/4"	200	200 watt A-23	VDC22GP	VDC22	G24	P21	
1/2	or 3/4"	300	300 watt	VDC23GP	VDC23	G34/G251	P22	

Ceiling Mount for Recessed 4" Round Box – VXH Series



Series	Max. Lamp Size	Complete Cat. # with globe/guard	Lamp Socket Body	Globe	Guard
150	150 watt A-21	VXH15GP	VXH15	G54	P50
200	200 watt A-23	VXH12GP	VXH12	G24	P21
300	300 watt PS-25 & PS-30	VXH13GP	VXH13	G34/G251	P22

Luminaire Components Cat. #s

Luminaire Components Cat. #s

Ceiling Mount with Junction Box – VXHF Series



					iipoiioiito oui		
Hub Size	Series	Max. Lamp Size	Complete Cat. # with globe/guard	Lamp Socket Body	Globe	Guard	Junction Box
1/2 or 3/4"	150	150 watt A-21	VXHF25GP	VXH15	G54	P50	VXF20
1/2 or 3/4"	200	200 watt A-23	VXHF22GP	VXH12	G24	P21	VXF20
1/2 or 3/4"	300	300 watt	VXHF23GP	VXH13	G34/G251	P22	VXF20

Note: All fixtures supplied with $^{1\!/_{\!2}\text{\tiny{II}}}$ reducers, except for pendant mount.

VAPORGARD™ Incandescent Luminaires

Cl. I, Div. 2, Groups A, B, C, D Wet Locations NEMA 3, 3R

Enclosed and Gasketed

Wall Mount – VXHT Series									
VART Series	Hub Size	Series	Max. Lamp Size	Complete Cat. #	Luminaire Wall Bracket Mounting Module	Compor	nents Cat. #	s Guard	
	1/2 or 3/4"	150	150 watt	VXHT25GP	VXT20	VXH15		P50	
111	1/2 or 3/4"	200	A-21 200 watt A-23	VXHT22GP	VXT20	VXH12	G24	P21	
	1/2 or 3/4"	300	300 watt PS-25 & PS-30	VXHT23GP	VXT20	VXH13	G34/G251	P22	
Wall Mount – Adapter Kit									
	Description			Cat. #					
	Mounts water to a 4" Ro		XHT Series	VXT K1					
Wall Mount wit Junction Box - VXHBF Series					Luminaina	0	t- O-t #		
200	Llub		Max.	Complete Cat. #	Wall Bracket	Compon	ents Cat. #	5	Junction
66	Hub Size	Series	мах. Lamp Size	with globe/guard	Mounting Module	Body	Globe	Guard	Box
1 100	1/2 or 3/4"	150	150 watt A-21	VXHBF25GP	VXT20	VXH15	G54	P50	VXF20
	1/2 or 3/4"	200	200 watt A-23	VXHBF22GP	VXT20	VXH12	G24	P21	VXF20
	1/2 or 3/4"	300	300 watt						
		300	PS-25 & PS-30	VXHBF23GP	VXT20	VXH13	G34/G251	P22	VXF20
Stanchion Mou VXHA Series	J nt – Hub Size	Series	Мах.	Complete Cat. #		Compor	G34/G251 nents Cat. #		VXF20
	Hub				Luminaire Stanchion Mounting	Compor	nents Cat. # Globe	s	VXF20

VXHA43GP

Note: All fixtures supplied with 1/2" reducers, except for pendant mount.

A-23 300 watt

PS-25 & PS-30

11/4"

VXA4

VXH13 G34/G251 P22

VAPORGARD™ Incandescent 1L **Luminaires**

Parts and Accessories

Medium Base Lamp Receptacle with Strap Shock Absorbing



Description	Cat. #
Shock Absorbing Medium Base Lamp Receptacle with Strap	V 84

Reflectors



Dome



30° Angle

Max. Lamp Size	Dome Cat. #	30° Angle Cat. #
150 watt, A-21	RD64	RA64
200 watt, A-23, A-25, PS-25 and 300 watt. PS-30	RD71	RA71

VXFT - 5 Hubs, 4 Plugs



Hub Size (In.)	Cat. #
1/2	VXFT10
3/4	VXFT20

For use when rear wiring entry is required. Use in lieu of VXF10 or VXF20.

Globest and Guards





150 and 200W 300W globe globe

Max. Lamp Size

Color	150 Watt, A-21 Cat. #	200 Watt, A-23, A-25, PS-25 Cat. #	300 Watt, PS-25, PS-30∎ Cat. #
Clear (heat- resisting)	G54	G24	G34G251
Green Blue Red Amber	G55* G56* G57* G58*	G25 G26 G27 G28	

Guards for Glass Globes (Not for use with plastic globes)





Guard P50 and P21

Guard P22

Max. Lamp Size	Cat.
150 watt, A-21	P50
200 watt, A-23, A-25, PS-25	P21
300 watt, PS-30 (with G251 or	nly) P22

Plastic Globeso



Shatterproof polycarbonate plastic globe†

Applications:

For use in:

- · Food processing plants and canneries, dairies, breweries and bakeries
- Emergency lighting

Features:

- · Shatterproof, which precludes contamination of food products with broken particles of glass
- Designed to comply with U.S. Dept. of Agriculture specification for food processing plants
- Provides protection against vandalism, with resultant lower replacement and maintenance costs
- Particularly adaptable for use on emergency police or fire alarm boxes
- Same size as G24 series glass globes.
 Existing installations can be changed to plastic globes simply by replacing globe
- For use with 200 watt series luminaires such as VDA22, etc.
- · For use without guard

Color	Max. Wattage, Lamp Size	Cat. #
Natural	200 watt, A-23	G63
Green	200 watt, A-23	G65
Red	200 watt, A-23	G67
Makes Delice		

Note: Polycarbonate globes for non-hazardous locations only.

Mounting Adapter Kit



VXT-K1

Allows for the mounting of non-
Eaton's Crouse-Hinds outlet
boxes to the VXT20 wall mount
bracket and VXH ceiling mount
bracket

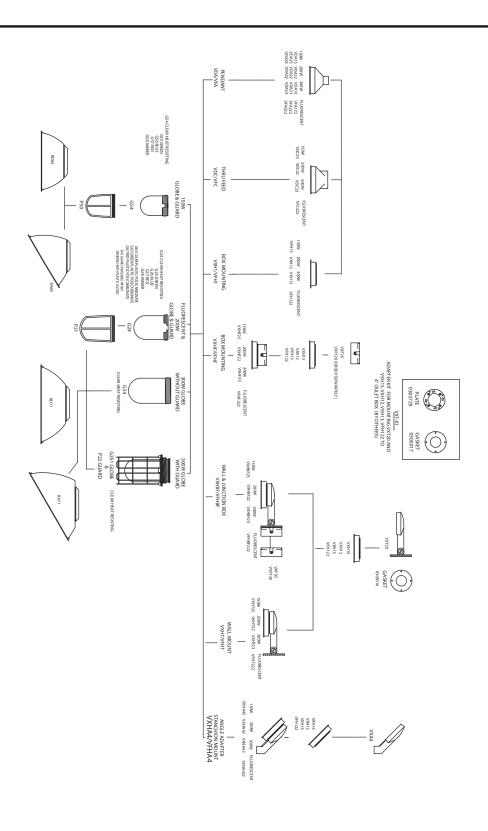
Description

VXT K1

Crouse-Hinds by **F**:**T·N**

Cat. #

[†]Prior to wash-down, globes must be cool. ©Lamp must be mounted in vertical position base up to 45°C (stanchion) only.

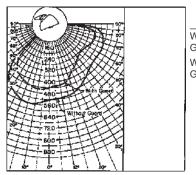


1L VAPORGARD™ Incandescent Luminaires

Luminaire VXHA45GPRA

Lamp: 150W/A-21

Total Bare Lamp Lumens: 2850



	Total Lumens	Eff. %
Vith Guard	1490	52.3
Vithout Guard	1881	66.0

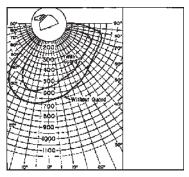
Measurements taken from A-A' plane.



Luminaire VXHA42GPRA

Lamp: 300W/PS-30

Total Bare Lamp Lumens: 6300



	Total Lumens	Eff. %
With Guard	3630	57.6
Without Guard	4271	67.8

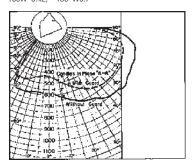
Measurements taken from A-A' plane.



Luminaire With Globe, 30° Angle Reflector and With or Without Guard

Lamp: 100W/A-21 through 200W/A-23 Total Bare Lamp Lumens: 4000

All data provided is for 200W/A-23 incandescent lamp. Use following candlepower/lumen multipliers for other lamp sizes: 100W 0.42; 150 W0.7



Measurements taken from A-A' plane.

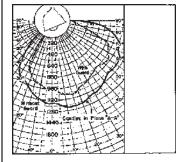


	Without G	Without Guard		t
Lamp	Total	= 55 0/	Total	====
Size	Lumens	Eff. %	Lumens	Eff. %
100W	1141		949	
150W	1890		1582	
200W/A-23	2700	67.5	2260	56.5
200W/PS-25	2174		1819	

Luminaire With Globe, 30° Angle Reflector and With or Without Guard

Lamp: 300W/PS-30

Total Bare Lamp Lumens: 6000



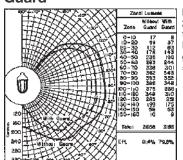
	Total Lumens	Eff. %
With Guard	3360	56.0
Without Guard	3954	65.9

Measurements taken from A-A' plane.



All data provided is for 200W/A-23 incandescent lamp. Use following candela/lumen multipliers for other lamp sizes: 100W 0.42; 150W 0.7; 200W/PS-25 0.82

Luminaire With Globe and With or Without Guard



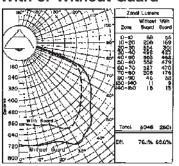
Example: Zonal Lumens for 200W/A-23 lamp with guard for 0–40° is 272 Zonal Lumens for 150W lamp with guard for 0–40° is 272 x 0.7 = 190.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance	e Wall	Room (Cavity Ra	atio 3	4	5
80	50 30 10	.654 .608 .567	.549 .486 .432	.471 .400 .345	.407 .333 .277	.353 .282 .228
70	50 30 10	.603 .563 .523	.506 .449 .401	.434 .370 .320	.375 .309 .257	.326 .260 .211
50	50 30 10	.509 .477 .449	.424 .380 .341	.363 .313 .271	.312 .260 .218	.273 .220 .179
30	50 30 10	.422 .399 .376	.349 .315 .285	.297 .259 .225	.255 .214 .180	.223 .180 .147
10	50 30 10	.343 .324 .307	.280 .253 .230	.237 .206 .180	.202 .170 .143	.176 .142 .115
% Reflectance	e Wall	Room 6	Cavity Ra	atio 8	9	10
					9 .226 .162 .118	.201 .140 .100
Eff. Ceil.	Wall 50 30	.315 .244	.279 .210	.249 .183	.226 .162	.201 .140
Eff. Ceil.	Wall 50 30 10 50 30	.315 .244 .193 .289 .225	7 .279 .210 .164 .257 .194	.249 .183 .137 .230 .170	.226 .162 .118 .208 .150	.201 .140 .100 .185 .130
80 70	50 30 10 50 30 10 50 30 10 50 30	.315 .244 .193 .289 .225 .177 .242 .189	7 .279 .210 .164 .257 .194 .150 .215 .163	8 .249 .183 .137 .230 .170 .127 .192 .143	.226 .162 .118 .208 .150 .110	.201 .140 .100 .185 .130 .093 .156 .109

Luminaire With Globe, Dome Reflector and With or Without Guard



Example: Zonal Lumens for 200W/A-23 lamp with guard for 0–40° is 948 Zonal Lumens for 150W lamp with guard for 0–40° is 948 x 0.7 = 664.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

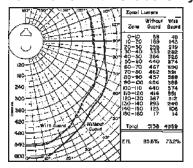
% Reflectan			Cavity F			
Eff. Ceil.	Wall	1	2	3	4	5
	50	.604	.522	.454	.395	.347
80	30	.576	.480	.404	.340	.290
	10	.552	.444	.364	.298	.248
	50	.591	.512	.445	.387	.339
70	30	.565	.472	.398	.336	.286
	10	.543	.440	.361	.296	.246
	50	.564	.490	.428	.372	.327
50	30	.544	.457	.387	.327	.280
	10	.526	.428	.354	.292	.245
	50	.541	.470	.411	.358	.315
30	30	.525	.444	.377	.319	.273
	10	.509	.419	.348	.288	.241
	50	.521	.452	.396	.345	.304
10	30	.507	.429	.367	.311	.268
	10	.494	.409	.342	.283	.238
% Reflectan			Cavity F			
Eff. Ceil.	Wall	6	7	8	9	10
	50	.309	.274	.244	.222	.193
80	30	.253	.220	.192	.170	.142
	10	.214	.184	.155	.135	.110
	50	.303	.270	.241	.219	.189
70	30	.250	.217	.191	.168	.142
	10	.211	.181	.154	.135	.110
	50	.291	.260	.232	.211	.184
50	30	.245	.212	.186	.166	.139
	10	.209	.179	.153	.134	.109
	50	.281	.250	.225	.204	.178
30	30	.239	.209	.182	.162	.136
	10	.207	.177	.152	.133	.107
				0.1=	100	
	50	.272	.243	.217	.198	.173
10	50 30 10	.272 .234 .205	.243 .205 .175	.217 .179 .150	.198 .159 .131	.173 .134 .106

1L VAPORGARD™ Incandescent Luminaires

Lamp: 300W/PS-30

Total Bare Lamp Lumens: 6000

Luminaire With Globe Only

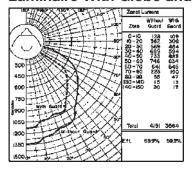


Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflect:	ance	Room	Cavity Ra	tio			
Eff. Ceil.	Wall	1	2	3	4	5	
	50	.692	.582	.499	.431	.373	
80	30	.644	.515	.425	.354	.300	
	10	.602	.459	.367	.295	.243	
	50	.636	.534	.458	.396	.345	
70	30	.594	.475	.392	.327	.276	
	10	.552	.425	.339	.273	.223	_
	50	.532	.444	.380	.327	.286	
50	30	.500	.398	.328	.272	.230	
	10	.470	.358	.285	.229	.188	_
00	50	.437	.362	.308	.264	.230	
30	30	.412	.326	.268	.222	.186	
	10	.389	.295	.234	.186	.152	
	50	.350	.285	.241	.205	.179	
10	30	.331	.258	.210	.172	.144	
	10	.313	.235	.183	.145	.116	
% Reflect			Cavity Ra				
% Reflect	ance Wall	Room 6	Cavity Ra 7	tio 8	9	10	
Eff. Ceil.	Wall 50	.333	.295	.263	.238	.212	_
	Wall 50 30	.333 .258	.295 .223	.263 .194	.238 .170	.212 .147	_
Eff. Ceil.	Wall 50	.333	.295	.263	.238 .170 .125	.212	_
Eff. Ceil.	Wall 50 30 10 50	.333 .258 .205	.295 .223 .173	.263 .194 .145	.238 .170 .125	.212 .147 .105	_
Eff. Ceil.	Wall 50 30 10 50 30	.333 .258 .205 .305 .238	.295 .223 .173 .271 .204	.263 .194 .145 .241 .178	.238 .170 .125 .219 .157	.212 .147 .105 .194 .136	_
Eff. Ceil.	Wall 50 30 10 50 30 10	.333 .258 .205 .305 .238 .188	7 .295 .223 .173 .271 .204 .158	8 .263 .194 .145 .241 .178 .133	.238 .170 .125 .219 .157 .115	.212 .147 .105 .194 .136 .097	_
80 70	Wall 50 30 10 50 30 10 50 30 10	.333 .258 .205 .305 .238 .188	7 .295 .223 .173 .271 .204 .158	8 .263 .194 .145 .241 .178 .133	.238 .170 .125 .219 .157 .115	.212 .147 .105 .194 .136 .097	_
Eff. Ceil.	Wall 50 30 10 50 30 10 50 30 10 50 30	.333 .258 .205 .305 .238 .188 .253 .198	7 .295 .223 .173 .271 .204 .158 .224 .170	.263 .194 .145 .241 .178 .133 .200 .148	.238 .170 .125 .219 .157 .115 .181 .131	.212 .147 .105 .194 .136 .097 .162 .113	_
80 70	Wall 50 30 10 50 30 10 50 30 10 50 30 10	.333 .258 .205 .305 .238 .188 .253 .198 .157	7 .295 .223 .173 .271 .204 .158 .224 .170 .132	.263 .194 .145 .241 .178 .133 .200 .148 .110	.238 .170 .125 .219 .157 .115 .181 .131	.212 .147 .105 .194 .136 .097 .162 .113 .079	
80	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50	6 .333 .258 .205 .305 .238 .188 .253 .198 .157	7 .295 .223 .173 .271 .204 .158 .224 .170 .132	8 .263 .194 .145 .241 .178 .133 .200 .148 .110	.238 .170 .125 .219 .157 .115 .181 .131 .095	.212 .147 .105 .194 .136 .097 .162 .113 .079	_
80 70	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 30 30	6 .333 .258 .205 .305 .238 .188 .253 .198 .157	7 .295 .223 .173 .271 .204 .158 .224 .170 .132 .180 .138	8 .263 .194 .145 .241 .178 .133 .200 .148 .110	.238 .170 .125 .219 .157 .115 .181 .131 .095	.212 .147 .105 .194 .136 .097 .162 .113 .079 .130	
80	50 30 10 50 30 10 50 30 10 50 30 10 50 30 10	6 .333 .258 .205 .305 .238 .188 .253 .198 .157 .204 .160	7 .295 .223 .173 .271 .204 .158 .224 .170 .132 .180 .138 .105	8 .263 .194 .145 .241 .178 .133 .200 .148 .110 .162 .119 .088	.238 .170 .125 .219 .157 .115 .181 .131 .095 .146 .105 .075	.212 .147 .105 .194 .136 .097 .162 .113 .079 .130 .090	
70 50 30	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 50	6 .333 .258 .205 .305 .238 .188 .253 .198 .157 .204 .160 .127	7 .295 .223 .173 .271 .204 .158 .224 .170 .132 .180 .138 .105	.263 .194 .145 .241 .178 .133 .200 .148 .110 .162 .119 .088	.238 .170 .125 .219 .157 .115 .181 .131 .095 .146 .105 .075	.212 .147 .105 .194 .136 .097 .162 .113 .079 .130 .090 .061	
80	50 30 10 50 30 10 50 30 10 50 30 10 50 30 10	6 .333 .258 .205 .305 .238 .188 .253 .198 .157 .204 .160	7 .295 .223 .173 .271 .204 .158 .224 .170 .132 .180 .138 .105	8 .263 .194 .145 .241 .178 .133 .200 .148 .110 .162 .119 .088	.238 .170 .125 .219 .157 .115 .181 .131 .095 .146 .105 .075	.212 .147 .105 .194 .136 .097 .162 .113 .079 .130 .090	

Luminaire With Globe and Dome Reflector



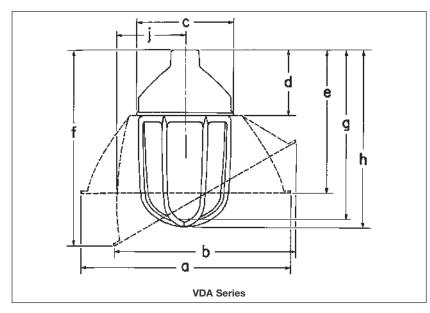
Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

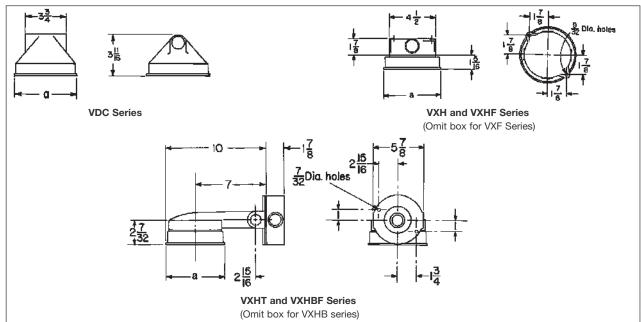
% Reflectance		Room	Cavity Ra	itio		
Eff. Ceil.	Wall	1	2	3	4	5
	50	.766	.671	.587	.514	.454
80	30	.734	.621	.528	.448	.385
	10	.706	.579	.482	.398	.334
	50	.750	.657	.577	.505	.443
70	30	.720	.610	.521	.444	.380
	10	.694	.573	.477	.395	.332
	50	.717	.630	.555	.485	.429
50	30	.693	.592	.507	.432	.372
	10	.672	.558	.468	.390	.329
	50	.688	.606	.535	.468	.414
30	30	.670	.575	.494	.422	.364
	10	.651	.546	.460	.385	.325
	50	.663	.584	.516	.452	.400
10	30	.647	.557	.482	.412	.357
	10	.632	.534	.452	.379	.321
		Room	Cavity Ra	itio		
	ance Wall	Room 6	Cavity Ra 7	itio 8	9	10
			-		.293	10
Eff. Ceil.	Wall 50 30	.404 .337	.360 .294	.322 .258	.293	.254 .191
Eff. Ceil.	Wall 50	.404	.360	.322	.293	.254
Eff. Ceil. 80	Wall 50 30 10 50	.404 .337	.360 .294	.322 .258 .212	.293 .229 .185	.254 .191
Eff. Ceil. 80	Wall 50 30 10 50 30	.404 .337 .289	.360 .294 .250	.322 .258 .212	.293 .229 .185 .288 .227	.254 .191 .151
Eff. Ceil. 80	Wall 50 30 10 50	.404 .337 .289	.360 .294 .250	.322 .258 .212	.293 .229 .185	.254 .191 .151
80 70	Wall 50 30 10 50 30 10 50 30 10	.404 .337 .289 .397 .333	360 .294 .250 .354 .290 .246	.322 .258 .212 .317 .256	.293 .229 .185 .288 .227 .185	.254 .191 .151 .249 .191
Eff. Ceil. 80 70	50 30 10 50 30 10 50 30 10	.404 .337 .289 .397 .333 .285 .383 .326	360 .294 .250 .354 .290 .246 .342 .284	8 .322 .258 .212 .317 .256 .211 .306 .250	.293 .229 .185 .288 .227 .185 .279 .223	.254 .191 .151 .249 .191 .151 .243 .187
Eff. Ceil. 80 70	Wall 50 30 10 50 30 10 50 30 10	6 .404 .337 .289 .397 .333 .285	360 .294 .250 .354 .290 .246	8 .322 .258 .212 .317 .256 .211	.293 .229 .185 .288 .227 .185	.254 .191 .151 .249 .191 .151
% Reflect: Eff. Ceil. 80 70	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.404 .337 .289 .397 .333 .285 .383 .326	360 .294 .250 .354 .290 .246 .342 .284	8 .322 .258 .212 .317 .256 .211 .306 .250	.293 .229 .185 .288 .227 .185 .279 .223	.254 .191 .151 .249 .191 .151 .243 .187
Eff. Ceil. 80 70 50	50 30 10 50 30 10 50 30 10 50 30 10 50 30	6 .404 .337 .289 .397 .333 .285 .383 .326 .283 .371 .320	360 .294 .250 .354 .290 .246 .342 .284 .244	8 .322 .258 .212 .317 .256 .211 .306 .250 .209 .297 .245	.293 .229 .185 .288 .227 .185 .279 .223 .184 .270 .218	.254 .191 .151 .249 .191 .151 .243 .187 .150
Eff. Ceil. 80 70 50	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.404 .337 .289 .397 .333 .285 .383 .326 .283	360 .294 .250 .354 .290 .246 .342 .284 .244	8 .322 .258 .212 .317 .256 .211 .306 .250 .209	.293 .229 .185 .288 .227 .185 .279 .223 .184	.254 .191 .151 .249 .191 .151 .243 .187 .150
Eff. Ceil. 80 70	50 30 10 50 30 10 50 30 10 50 30 10 50 30	6 .404 .337 .289 .397 .333 .285 .383 .326 .283 .371 .320	7 .360 .294 .250 .354 .290 .246 .342 .284 .244 .330 .280	8 .322 .258 .212 .317 .256 .211 .306 .250 .209 .297 .245	.293 .229 .185 .288 .227 .185 .279 .223 .184 .270 .218	.254 .191 .151 .249 .191 .151 .243 .187 .150 .235 .184
Eff. Ceil. 80 70 50	50 30 10 50 30 10 50 30 10 50 30 10	.404 .337 .289 .397 .333 .285 .383 .326 .283 .371 .320 .281	7 .360 .294 .250 .354 .290 .246 .342 .284 .244 .330 .280 .241	.322 .258 .212 .317 .256 .211 .306 .250 .209 .297 .245 .208	.293 .229 .185 .288 .227 .185 .279 .223 .184 .270 .218 .182	.254 .191 .151 .249 .191 .151 .243 .187 .150 .235 .184 .148

VAPORGARD™ Incandescent Luminaires

Dimensions



Din		in Inches 200 watt, PS-25	300 watt, PS-30
а	12 ⁷ / ₈	16 ⁷ / ₈	16 ⁷ / ₈
b	111/8	145/8	145/8
С	53/8	6	6
d	313/16	4	4
е	87/16	91/8	91/8
f	12	14	14
g	813/16	101/2	12
h	9	1013/16	131/8
j	41/2	611/16	611/16



Dimensions in Inches

Max. Lamp Size	а
150 watt, A-21	53/8
200 watt, A-23, A-25, PS-25	
and 300 watt, PS-30	6

V-Series Incandescent 1L Luminaires

Enclosed and Gasketed

Applications:

V-Series incandescent luminaires are used:

- Indoors or outdoors in industrial locations where enclosed and gasketed fixtures are required
- In tunnels, building entrances and similar locations, where moisture, dirt, chemicals, vibration or rough usage are a problem
- For flush or surface mounting on ceiling or wall, with or without a cast outlet box, pendant or in conduit systems

Features:

- Designed to exclude dirt, moisture and corrosive vapors from the interior of the fixtures and the conduit system
- Several body styles provide a wide variety of mountings, while all use the same globes, guards and optional accessories
- · Rugged and corrosion resistant

Certifications and Compliances:

- Wet locations
- NEMA: 3, 3R
- UL Standard: 1598

Standard Materials:

- Bodies Feraloy® iron alloy
- Guards copper-free aluminum
- Globes glass
- Reflectors Krydon® fiberglassreinforced polyester material reflectors

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Krydon® material high reflectance white

Options:

Description Suffix

Corro-free™ epoxv powder coat

S752

Plastic polycarbonate Order separately. See below

Size Ranges:

- 3/4 hubs
- Maximum wattage lamp:
 - Glass globes 150W, A23
 - Polycarbonate 75W, A33













	VDA	VC	VG	VJ	VD
Description	Cat. #	Cat. #	Cat. #	Cat. #	Cat. #
With plain globe and guard	VDA2759	VC2759	VG2759	VJ2759	VD2759
Without globe and guard	VDA275	VC275	VG275	VJ275	VD275

Glass Globes and Guards





Cat. #

V911

V63 Globe Cat. #

63/4"

Color Clear (heat V63 resisting) VN72 Green Blue VN73 Red **VN75** Amber **VN76**

Polycarbonate Globes Applications:

Polycarbonate globes are used:

- In food processing plants, canneries, dairies, breweries and bakeries
- In emergency lighting
- Emergency police and fire alarm boxes

Features:

- Polycarbonate globes are shatterproof, preclude contamination of food products with broken particles of glass
- Comply with U.S. Dept. of Agriculture specification for food processing plants



V470

Color	Cat. #
Natural	V470
Red	V475

Crouse-Hinds by **F**:**T·N**

Incandescent Luminaires

Accessories and Parts For V-Series

Reflectors Krydon® - fiberglass-reinforced polyester (Must be used with V911 Guard)



Dome



Angle

Lamp Size	Dia.	Cat. #
Dome 50–150W	12"	RD60
30°Angle 50–150W	12"	RA60

Note: Angle reflector cannot always be used with bracket style fixtures. Check distance from mounting surface to center of body against reflector size to determine if reflector will fit.

Receptacles (medium base)



Description	Cat. #
Medium Base Receptacle	V46

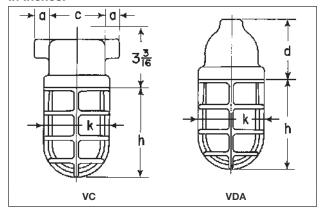
Gasket



Description	Cat. #
Gasket	GASK213

Dimensions

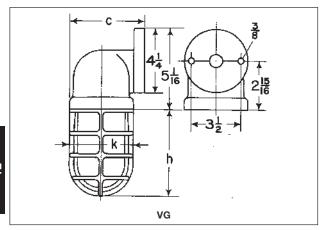
In Inches:

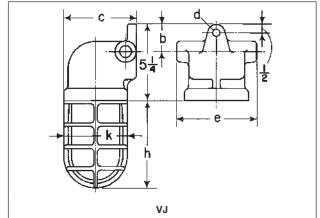


VD

Hub Size	а	С	d	h	k	
1/2	7/8	311/16	4	63/16	49/16	
3/4	7/8	311/16	4	63/16	49/16	







Hub Size	С	h	k	
1/2	47/8	63/16	49/16	
3/4	47/8	63/16	49/16	

Hub Size	b	С	d	е	h	k	
1/2	1 13/ ₁₆	47/8	3/8	5³/s	63/16	49/16	
3/4	1 13/16	47/8	3/8	53/8	63/16	49/16	

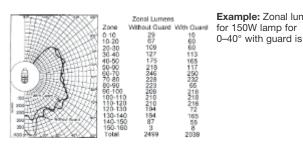
Enclosed and Gasketed

Luminaires V-Series

Lamp: 150W/A23 Clear

Total Bare Lamp Lumens: 2800

All data provided is for 150W incandescent lamp. Use following candela/lumen multipliers for the other lamp sizes: 100W-0.61



Example: Zonal lumens 0-40° with guard is 252.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflecta	nce	Room	Cavity F	Ratio		
Eff. Ceil.	Wall	1	2	3	4	5
80	50	.659	.558	.479	.416	.361
	30	.623	.504	.417	.349	.298
	10	.591	.458	.367	.298	.248
70	50	.609	.515	.442	.384	.336
	30	.577	.466	.386	.324	.275
	10	.545	.426	.342	.278	.230
50	50	.515	.434	.372	.321	.282
	30	.491	.397	.328	.274	.234
	10	.469	.364	.293	.238	.197
30	50	.429	.359	.307	.264	.232
	30	.411	.332	.274	.228	.194
	10	.395	.307	.245	.198	.165
10	50	.350	.290	.246	.211	.185
	30	.337	.269	.221	.183	.156
	10	.325	.251	.199	.160	.132

% Reflectanc Eff. Ceil.	e Wall	Room 6	Cavity R	atio 8	9	10
80	50	.325	.290	.261	.236	.211
	30	.259	.227	.199	.176	.153
	10	.212	.183	.157	.136	.116
70	50	.299	.268	.241	.219	.194
	30	.240	.210	.186	.164	.143
	10	.197	.170	.146	.127	.108
50	50	.252	.226	.203	.185	.165
	30	.205	.178	.158	.140	.122
	10	.169	.145	.125	.109	.092
30	50	.208	.186	.169	.153	.137
	30	.170	.149	.131	.117	.101
	10	.141	.121	.105	.091	.076
10	50	.167	.151	.135	.124	.110
	30	.136	.121	.106	.094	.081
	10	.114	.098	.084	.073	.060

CI. I, Div. 2, Groups A, B, C, D Corrosive Wet Locations NEMA 3, 3R, 4, 4X

Applications:

Corro•Gard™ NDA Series Luminaires made of Krydon® fiberglass-reinforced polyester are used to provide incandescent lighting:

- Indoors or outdoors in industrial wet or dirty locations and where corrosion is a problem
- In marine applications, above and below deck, where salt spray corrosion shortens fixture life
- In food and beverage industries where frequent wash-downs are necessary
- For walkways, bridges, tunnels, security lighting, cold storage facilities, garages, coal handling areas, shipboard, processing plants, and nuclear generating plant containment areas

Features:

- Luminaire is molded Krydon® for excellent corrosion, heat, and impact resistance
- Accommodates all popular incandescent lamps up to 300W, PS-25
- Attractive modern design and color complement other Corro•Gard products
- Weighs only 8½ lbs. complete with lamp and globe
- Medium screw base porcelain lamp socket has a vibration absorbing mounting bracket
- All joints are gasketed to ensure watertightness
- Configured glass globe reduces glare
- Corro•Gard reflectors made of Krydon[®] reflect light better than porcelainized steel; do not yellow or discolor with age; cannot chip, peel, rust or dent

Certifications and Compliances:

- UL Standard: 1598
- Wet Locations
- Suitable for 40°C ambient temperature

Standard Materials:

- Bodies and reflectors Krydon® fiberglass-reinforced polyester material
- Globes configured heat-resistant glass

Standard Finishes:

- Bodies natural
- Reflectors natural, high reflectance white

Options:

Description	Suffix
TEFLON® coating on G24 globe for	
increased shatter protection	S808

Ordering Information: For Pendant Mounting

Hub Size	Max. Lamp Size	Body Only Cat. #	Globe Only Cat. #	With Globe Cat. #
3/4"	300W PS-25 Med. Base	NDA22	G24	NDA22G

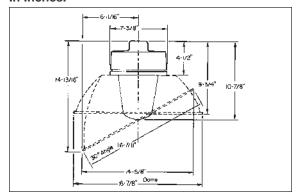
Temperature Performance Data:

(based on 40°C ambient)

Max. Lamp Size	T-Number	Supply Wire (°C)
300W	T2A	150°C

Note: Fixtures are not marked with T-Number.

Dimensions In Inches:



Accessories & Parts





Globe	Guard			
Color	Globe Cat. #	Guard Cat. #		
Clear (heat resisting) Green Blue Red Amber	G24 G25 G26 G27 G28	P21		

Replacement Lamp Receptacles with Strap Shock Absorbing



Reflectors (Order separately)





30° Angle

Туре	Cat. #
Dome	RD725 (RD75)
30° Angle	RA725 (RA75)

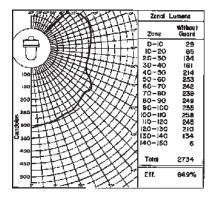
Crouse-Hinds

NDA Corro•Gard™ Corrosion-Resistant Incandescent Luminaires

Lamp: 200W/PS-25

All data provided is for incandescent with 200W/PS-25 lamp. See Multipliers for other wattages and lamp types.

Luminaire With Globe

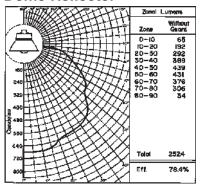


Coefficient of Utilization

Effective Floor Cavity Reflectance 20%
% Perflectance Room Cavity Patio

% Reflec						
Eff. Ceil.	Wall	1	2	3	4	5
80	50 30 10	.762 .715 .673	.651 .585 .529	.565 .491 .433	.494 .416 .357	.433 .358 .300
70	50 30 10	.708 .667 .626	.605 .546 .496	.526 .460 .407	.461 .390 .336	.406 .335 .282
50	50 30 10	.608 .576 .547	.519 .473 .432	.452 .399 .356	.395 .339 .295	.292 .250 .248
30	50 30 10	.516 .492 .469	.439 .404 .372	.382 .342 .307	.335 .290 .254	.297 .250 .215
10	50 30 10	.433 .413 .396	.366 .339 .315	.319 .287 .259	.279 .244 .215	.247 .211 .181
0	0	.354	.277	.226	.184	.154
% Reflection Eff. Ceil.	tance Wall	Roor 6	n Cav 7	vity R 8	atio 9	10
						.253 .185 .141
Eff. Ceil.	Wall 50 30	.389 .312	.348 .273	.312 .240	9 .284 .214	.253 .185
Eff. Ceil.	50 30 10 50 30	.389 .312 .258 .363 .293	.348 .273 .222 .324 .256	.312 .240 .190 .291 .226	.284 .214 .166 .266 .201	.253 .185 .141 .236 .175
80 70	50 30 10 50 30 10 50 30 10 50 30	.389 .312 .258 .363 .293 .242 .312 .256	7 .348 .273 .222 .324 .256 .208 .280 .223	312 .240 .190 .291 .226 .179 .252 .198	9 .284 .214 .166 .266 .201 .157 .230 .177	.253 .185 .141 .236 .175 .133 .205 .153
80 70 50	50 30 10 50 30 10 50 30 10 50 30 10	.389 .312 .258 .363 .293 .242 .312 .256 .213	7 .348 .273 .222 .324 .256 .208 .280 .223 .183 .238 .193	312 .240 .190 .291 .226 .179 .252 .198 .158	9 .284 .214 .166 .266 .201 .157 .230 .177 .139 .197 .152	.253 .185 .141 .236 .175 .133 .205 .153 .117 .175 .131

Luminaire With Globe and Dome Reflector

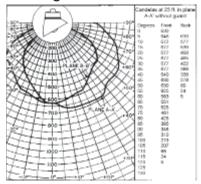


Coefficient of Utilization

Effective Floor Cavity Reflectance 20%
% Reflectance Room Cavity Ratio

Eff. Ceil.	Wall	1	2	3	4	5
80	50 30 10	.809 .773 .742	.703 .647 .601	.615 .550 .499	.541 .470 .416	.481 .408 .354
70	50 30 10	.791 .758 .729	.688 .636 .595	.604 .542 .494	.531 .465 .413	.470 .403 .315
50	50 30 10	.756 .729 .706	.659 .617 .579	.580 .528 .485	.510 .453 .408	.455 .395 .349
30	50 30 10	.726 .705 .684	.634 .599 .566	.558 .514 .477	.492 .442 .402	.439 .385 .344
10	50 30 10	.699 .663 .580	.610 .580 .553	.539 .501 .468	.475 .431 .396	.424 .378 .340
0	0	.647	.536	.451	.378	.323
		_	-			
% Reflection Eff. Ceil.	tance Wall	6	n Ca	vity R 8	atio 9	10
						.277 .211 .169
Eff. Ceil.	Wall 50 30	.431 .360	.386 .317	.347 .280	.317 .250	.277
80	50 30 10 50 30	.431 .360 .309 .423 .356	.386 .317 .269 .380 .312	.347 .280 .231 .342 .277	.317 .250 .204 .312 .247	.277 .211 .169 .272 .211
80 70	50 30 10 50 30 10 50 30 10	.431 .360 .309 .423 .356 .305	7 .386 .317 .269 .380 .312 .265 .368 .305	347 .280 .231 .342 .277 .231 .331 .272	9 .317 .250 .204 .312 .247 .204 .302 .243	.277 .211 .169 .272 .211 .169 .265 .207
70 50	50 30 10 50 30 10 50 30 10 50 30 10	.431 .360 .309 .423 .356 .305 .408 .348 .303	7 .386 .317 .269 .380 .312 .265 .368 .305 .263 .355 .301	8 .347 .280 .231 .342 .277 .231 .331 .272 .229 .321 .266	9 .317 .250 .204 .312 .247 .204 .302 .243 .202	.277 .211 .169 .272 .211 .169 .265 .207 .167 .257 .203

Luminaire With Globe and 30° Angle Reflector



Total Lumens	Eff. %
2595	80.6





Multipliers for Other Lamps

Photometric data was developed using a 200 watt/PS-25 inside frosted incandescent lamp (3,220 lumens). For other incandescent watts/lamp size, use the following conversion factors (multipliers):

Watts	Lamp Size	Lamp Lumens	Conversion Factor
100	A-19	1750	.54
100	A-21	1690	.52
150	A-21	2880	.89
150	PS-25	2680	.83
200	A-23	4010	1.25
300	PS-25	6360	1.98

Example: Zonal lumens for 200W/PS-25 luminaire with globe and dome reflector for $30-40^{\circ}$ is 389. Zonal lumens for 100W/A-21 luminaire with globe and dome reflector for $30-40^{\circ}$ is $389 \times .52 = 202$.

LED Luminaires Industrial and Hazardous Areas

Description	Page No.
Application/Selection	see pages 908-909
Industrial and Hazardous Area LED Luminaires	_
EV LED Series	see pages 910-913
Hazard•Gard® EVLL Series	see pages 914-918
Hazard•Gard® LPL Series	see pages 919-921
LL48 Series	see pages 922-923
Champ® VMV LED Series	see pages 924-928
Champ® FMV LED Series	see pages 929-932
Vaporgard™ LED Series	see pages 933-936
N2LPS Light-Pak™ Emergency Lighting System	see pages 937-939
Ex-Lite Series LED Exit Signs	see page 940
CCH UX Series LED Exit Signs	see page 941
Champ [®] Pro PVM Series	see pages 943-946
Champ [®] Pro PFM Series	see pages 947-948
Champ® Pro PFM25L and 50L Series	see pages 949-951
Vaporgard™ Pro P2L Series	see pages 952-954
Industrial High Bay LED Series	see page 955
Endure™ LED Series	see pages 956-957
LED Obstruction Lights and Visual Signals	See Obstruction Lighting Guide

2L LED Luminaires

Application and Selection

Applications:

Luminaires included in this section are designed for use:

 In manufacturing plants; heavy industrial, chemical, petrochemical, or pharmaceutical facilities; platforms; loading docks; tunnels

Considerations for Selection:

Environmental:

- What are the hazardous areas classifications (NEC/CEC) of the locations in which the luminaires will be installed?
- Must luminaires be suitable for use in marine, hosedown, corrosive applications?

Lighting levels required:

 What wattage luminaire(s) will provide the desired light level?

Series EV LED	Application General Illumination	Watts HPS, MH & Pulse Start MH Lamps 26 Watts; 30 Watts; 36 Watts	Hazardous Area & Other Enviromental Suitabilities NEC, CEC, IEC NEC & CEC CI. I, Div. 1, Groups C, D CI. I, Zone 1 & 2, Group IIB CI. II, Groups E, F, G Marine and Wet Locations, Type 4X, IP66 NEC CI. III, Simultaneous Presence
Hazard∙Gard EVLL LED	General Illumination	80 Watts; 100 Watts; 130 Watts; 151 Watts; 175 Watts	NEC & CEC Cl. I, Div. 1, Groups B, C, D Cl. I, Zone 1, Groups IIB + H2, IIB, IIA Cl. II, Groups E, F, G Cl. III, Simultaneous Presence
Hazard∙Gard LPL LED	General Illumination	60 Watts; 85 Watts; 100 Watts; 125 Watts; 150 Watts	Zones 1 and 2 (Ex-gas) Zones 21 and 22 (Ex-dust)
LL48 Linear LED	General Illumination	56 Watts	NEC Cl. I, Div. 2, Groups A, B, C, D NEMA 4X, IP66 Marine and Wet Locations
Champ® VMV LED	General Illumination	41 Watts; 67 Watts; 94 Watts; 114 Watts; 118 Watts	NEC & CEC CI. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, nA nR CI. II, Groups E, F, G CI. III Simultaneous Presence Wet Locations, Type 4X, IP66
Champ® FMV LED	Outdoor/Indoor Flood Illumination	64 Watts; 89 Watts; 121 Watts; 149 Watts; 179 Watts	NEC & CEC Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2 Cl. II, Groups E, F, G Cl. III Simultaneous Presence Wet Locations, Type 4X, IP66
Vaporgard™ LED	Targeted Illumination	22 Watts	NEC & CEC Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups F, G NEMA 4X
N2LPS Light-Pak™	Emergency Illumination	Input: 9 Watts max. Lamp: 3 Watts	NEC & CEC Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 2 Cl. II, Div. 1 Marine Wet Locations Suitability, Type 4X

Application and Selection

	1		1
Series	Application	Watts HPS, MH & Pulse Start MH Lamps	Hazardous Area & Other Enviromental Suitabilities NEC, CEC, IEC
Ex-Lite	Emergency Illumination	6 Watts	NEC & CEC Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, AEx em ib IIC Cl. II, Div. 2, Groups F, G
CCH UX	Emergency Illumination	3.2 Watts	NEC Cl. I, Div. 2, Groups A, B, C, D IP65, IP66 Wet Locations NEMA 4X
Champ® Pro PVM	General High Bay/Low Bay Illumination	41 Watts; 67 Watts; 94 Watts; 114 Watts; 118 Watts	NEC & CEC UL1598 UL1598A cUL NEMA 4X IP66
Champ® Pro PFM	Outdoor/Indoor Flood Illumination	64 Watts; 89 Watts; 121 Watts; 149 Watts; 179 Watts	NEC & CEC UL1598 UL1598A cUL NEMA 4X IP66
Champ® Pro PFM 25L and 50L	Outdoor/Indoor Flood Illumination	263 Watts; 531 Watts	NEC & CEC UL1598 UL1598A cUL NEMA 4X IP66
Vaporgard™ Pro P2L	Targeted Illumination	22 Watts	NEC & CEC UL1598 UL1598A cUL NEMA 4X IP66
Industrial High Bay LED	General Illumination	141 Watts (at 120 VAC); 138 Watts (at 277 VAC)	Meets UL1598 and cUL construction requirements
Endure™ LED Wall Pack	General Illumination	27 Watts; 51 Watts	NEC & CEC UL1598 cUL IP66

2L

EV LED Series Explosionproof LED Luminaires

Factory-sealed Improve safety, reliability and energy efficiency Cl. I, Div. 1, Groups C, D
Cl. I, Zone 1 & 2, Group IIB
Cl. II, Groups E, F, G
UL Listed (certified by UL to CSA standards)

Cl. III, Simultaneous Presence UL Listed cUL Listed (certified by UL to CSA standards) T6 temperature rating at 55°C Marine and wet locations Type 4X, IP66

The enhanced EV LED product offering provides the same durability and reliability of a traditional EV incandescent or HID fixture, coupled with the low cost of ownership and energy efficiency of Eaton's Crouse-Hinds LED technology. High-performance LEDs and a solid state electronic driver provide light where you need it, at a fraction of the operating costs of HID and incandescent lighting technologies.

EV LED Series Luminaires are designed to provide durable and energy-efficient lighting in a variety of applications. Incandescent and HID general illumination models are available, along with a wildlife friendly model and optional DC input voltage.

Applications:

- Two lumen outputs for replacement of existing HID and incandescent luminaires
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Where flammable vapors, gases, ignitable dusts, fibers or flyings are present; indoors or outdoors
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations and hose-down environments
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; platforms; loading docks; tunnels; outdoor wall and stanchion mounted general area lighting

Certifications & Compliances:

NEC & CEC

- Class I, Division 1, Groups C, D
- T6 temperature rating at 55°C
- Class I, Zone 1 & 2, Group IIB
- Class II, Groups E, F, G
- Marine and wet locations, Type 4X, IP66
- UL Listed
- cUL Listed (certified by UL to CSA standards)

NEC

Class III, simultaneous presence

UL Standards

- 844 Electric Fixture Hangers for Hazardous Locations
- 1598 Luminaire
- 1598A Luminaire for Installation on Marine Vessels

CSA Standards

• C22.2 No. 137

EV LED Benefits:

Enhance safety and productivity

- · Instant illumination and re-strike
- Better visibility with crisp, white light
- T6 temperature rating safely operate in the most hazardous environments
- Cold temperature operation / no warm-up required

Reduce operation and maintenance costs

- Easy installation compact modular fixture attaches onto existing Champ mounting module
- Energy-efficient up to 85% reduction in energy used
- Provides up to 50,000 hours rated life eliminates need for frequent lamp replacement
- Contains no mercury or other hazardous substances

Reliable performance in any environment

- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break – greatly reduces the risk of premature failure
- Operating ambient -30°C to 55°C (AC), -30°C to 40°C (DC)
- Dark sky compliant

Standard Materials:

- Body, mounting modules and guard copper-free aluminum with Corro-free™ epoxy powder coat
- Globe heat and impact-resistant glass
- Gaskets silicone
- External hardware stainless steel

Electrical Ratings:

	C201	C701	A201	C201/DC
Voltage Range	100-277V	100-277V	100-277V	10-30 VDC
Frequency	50 / 60 Hz			
Input Power	30W	36W	36W	26W
Input Amps (Max.)	0.30A	0.36A	0.36A	2.8A
Power Factor	0.98	0.99	0.98	0.99

LED System:

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- Amber color available for wildlife friendly applications
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- LM-79 and LM-80 reports available



EV LED Series Explosionproof LED Luminaires

Factory-sealed Improve safety, reliability and energy efficiency

Cl. I, Div. 1, Groups C, D Cl. I, Zone 1 & 2, Group IIB Cl. II, Groups E, F, G Cl. III, Simultaneous Presence

UL Listed cUL Listed (certified by UL to CSA standards) T6 temperature rating at 55°C Marine and wet locations Type 4X, IP66 2L

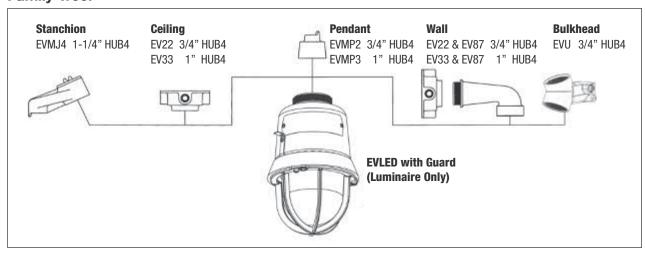
Ordering Information:

Mounting Style	Cool Color Temperature		Warm Color Temperature		Wildlife Friendly
Mounting Cityle	C201	C701	W201	W701	A201
Luminaire Only	EVLEDC201	EVLEDC701	EVLEDW201	EVLEDW701	EVLEDA201
³/₄" Pendant	EVLEDA2C201	EVLEDA2C701	EVLEDA2W201	EVLEDA2W701	EVLEDA2A201
1" Pendant	EVLEDA3C201	EVLEDA3C701	EVLEDA3W201	EVLEDA3W701	EVLEDA3A201
3/4" Ceiling Mount Thru Feed	EVLEDCX2C201	EVLEDCX2C701	EVLEDCX2W201	EVLEDCX2W701	EVLEDCX2A201
1" Ceiling Mount Thru Feed	EVLEDCX3C201	EVLEDCX3C701	EVLEDCX3W201	EVLEDCX3W701	EVLEDCX3A201
3/4" Wall Mount Thru Feed	EVLEDBX2C201	EVLEDBX2C701	EVLEDBX2W201	EVLEDBX2W701	EVLEDBX2A201
1" Wall Mount Thru Feed	EVLEDBX3C201	EVLEDBX3C701	EVLEDBX3W201	EVLEDBX3W701	EVLEDBX3A201
³/₄" Bulkhead Mount	EVLEDBH2C201	EVLEDBH2C701	EVLEDBH2W201	EVLEDBH2W701	EVLEDBH2A201
11/4" Stanchion	EVLEDJ4C201	EVLEDJ4C701	EVLEDJ4W201	EVLEDJ4W701	EVLEDJ4A201

To order a fixture without a guard, remove '1' from the end of the catalog number (Example: EVLEDAC20 for ¾" Pendant, No Guard). To order a fixture with 10-30VDC Input Voltage (available on 20 Series Only), add /DC to the end of the catalog number (Example: EVLEDAC201/DC).

To order a fixture with colored inserts (available on C20 Series Only), add a "G" (for green) or "R" (for red) to the end of the catalog number (Example: EVLEDAC201G).

Family Tree:



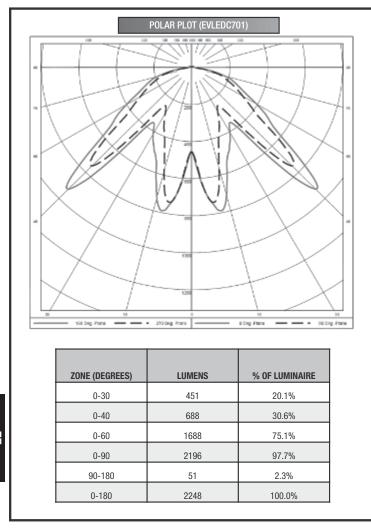
2L EV LED Series Explosionproof LED Luminaires

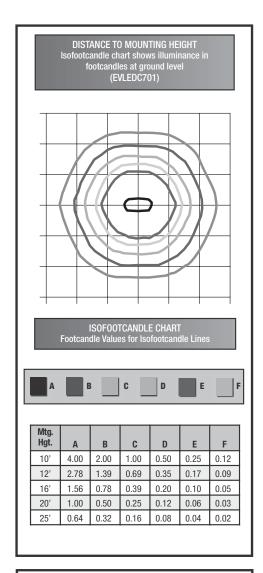
Factory-sealed Improve safety, reliability and energy efficiency

Cl. IÍ, Groups E, F, G Cl. III, Simultaneous Presence

CI. I, Div. 1, Groups C, D UL Listed CI. I, Zone 1 & 2, Group IIB cUL Listed (certified by UL to CSA standards) T6 temperature rating at 55°C Marine and wet locations Type 4X, IP66

Photometrics:





LUMEN OUTPUT FOR OTHER EV LED LUMINAIRES				
Luminaire Series	System Watts	Lumens		
C201	30W	1670		
A201	36W	1195		
C201/DC	26W	1493		

2L

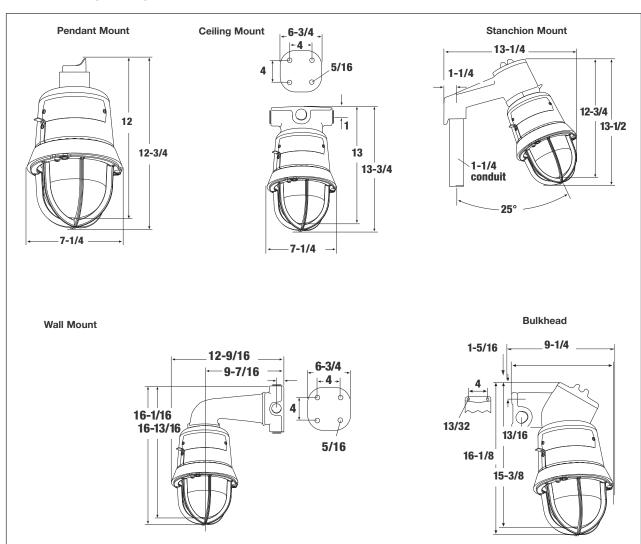
EV LED Series Explosionproof LED Luminaires

Factory-sealed Improve safety, reliability and energy efficiency

Presence

Cl. I, Div. 1, Groups C, D UL Listed
Cl. I, Zone 1 & 2, Group IIB cUL Listed (certified by UL to CSA standards)
Cl. III, Simultaneous T6 temperature rating at 55° T6 temperature rating at 55°C Marine and wet locations Type 4X, IP66

Dimensions (inches):



Net Weight (lbs.):

EV LED with Guard 11 lbs.	
Add Mounting Modules:	
Pendant 1.0 lbs.	
Ceiling 2.0 lbs.	
Wall 4.5 lbs.	
Bulkhead 2.2 lbs.	
Stanchion 2.5 lbs.	

Hazard•Gard® EVLL Series Explosionproof LED Luminaires

Class I, Division 1 factory-sealed LED luminaire for general illumination CI. I, Div. 1, Groups B, C, D
CI. I, Zone 1, Groups IIB +
H2, IIB, IIA
CI. II, Groups E, F, G
CI. III

UL Listed & CSA Certified IEC / ATEX (Pending) Simultaneous Presence Marine & Wet Locations NEMA 4X, IP66

The EVLL LED Family

Hazard • Gard • EVLL Series LED Luminaires are designed to provide full-spectrum, crisp, white light. Five versions of the EVLL LED are available, providing ideal solutions for a wide range of applications.

Model	Equivalent HID Luminaire	Typical Energy Savings
	100W-150W MH 150W-175W HPS/MH 175W-250W MH 250W-400W HPS/MH 400W HPS/MH PS	Up to 62%

Applications:

- Five lumen outputs for replacement of existing HID luminaires
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Where flammable vapors, gases, ignitable dusts, fibers or flyings are present; indoors or outdoors
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- NEMA 4X, marine, wet locations, and hose-down environments
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; platforms; loading docks; tunnels; outdoor wall and stanchion mounted general area lighting

EVLL LED Benefits:

Industry best for ease of installation

- Quick-connect design install and wire the mounting module, then simply screw in the
- Factory-sealed no external sealing fittings required in Groups B, C, and D
- Adapter available for connection to existing Hazard•Gard® EVI, EVLP, and EVM modules

Reduce operation and maintenance costs

- Energy-efficient up to 62% reduction in energy used versus equivalent HID fixtures
- 60,000 hours rated life eliminates need for frequent lamp replacement

Reliable performance in any environment

- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break – greatly reduces the risk of premature failure
- T5 temperature rating
- Operating ambient -25°C to 65°C

Certifications and Compliances:

NEC and CEC

- Class I, Division 1, Groups B, C, D
- Class I, Zone 1, Groups IIB + H2, IIB, IIA
- Class II, Groups E, F, G
- · Class III, Simultaneous Presence

UL Standards

- UL844 Electric Fixture Hangers for Hazardous Locations
- UL1598 Luminaires
- UL1598A Luminaire for Installation on Marine Vessels

CSA Standard

CSA C22.2 No. 137

Environmental Ratings

- NEMA 4X
- IP66
- Marine and Wet Locations

IEC and ATEX Certifications and Protection (Pending)

- Ex II 2G Ex d IIC (Zone 1, 2) (Pending)
- Ex II 2D Ex tD A21 IP66 (Zone 21, 22) (Pending)



Standard Materials:

- Body and mounting modules copperfree aluminum with Corro-free™ epoxy powder coat
- Lens shatter-resistant, explosionproof glass
- Gaskets silicone
- Guard stainless steel
- External hardware stainless steel
- · Factory-sealed*

*Refer to Installation and Maintenance Sheet for external seal requirements.

LED System:

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- LM-79 and LM-80 reports available

Electrical Ratings:

Model	Voltage	Input Amps (Max.)	Power Factor	Input Power	Lumen Output
EVLL5L	100-277VAC, 50 / 60 Hz 108-250VDC	0.46-0.82 0.38-0.89	0.99% 1	80W	5625
EVLL7L	100-277VAC, 50 / 60 Hz 108-250VDC	0.51-1.11 0.42-1.15	0.99% 1	100W	6750
EVLL9L	100-277VAC, 50 / 60 Hz 108-250VDC	0.61-1.19 0.56-1.30	0.99% 1	130W	9000
EVLL11L	100-277VAC, 50 / 60 Hz 108-250VDC	0.76-1.56 0.73-1.71	0.99% 1	151W	10500
EVLL13L	100-277VAC, 50 / 60 Hz 108-250VDC	0.78-1.58 0.75-1.73	0.99% 1	175W	13500

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Hazard•Gard® EVLL Series Explosionproof LED Luminaires

Class I, Division 1 factory-sealed LED luminaire for general illumination

CI. I, Div. 1, Groups B, C, D
CI. I, Zone 1, Groups IIB +
H2, IIB, IIA
CI. II, Groups E, F, G
CI. III

UL Listed & CSA Certified IEC / ATEX (Pending) Simultaneous Presence Marine & Wet Locations NEMA 4X, IP66

Installation and replacement made simple

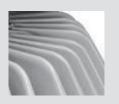
Modular design - This contractor-friendly design is ideal for both new construction applications and retrofit. These luminaires use the same mounting modules as existing Hazard • Gard ® Series luminaires. The quick-connect design facilitates installation - install and wire the mounting module, then screw in your luminaire. Two start Acme threads ease and reduce installation time.

High efficiency and lumen output

Driver module assembly - High efficiency LED drivers are designed to provide reliable operation in even the harshest environments. Various AC and DC input voltage options are available to suit virtually any drive requirement.

Safe, reliable heat transfer

Heat sink - Enhanced heat sink design provides safe and effective heat transfer from the LED assembly to the outside environment, ensuring low LED junction temperature, reliability and sustained lumen performance.





NEMA 4X rated

LED housing assembly - The LED housing is constructed of durable die cast aluminum, providing an efficient thermal path to the heat sink assembly. The impact-resistant lens is sealed from the outside environment and provides ingress protection against water and dust. Multi-die LED arrays are used to provide energy-efficient, long-life white light.

Optional color temperatures

Warm (available on 5L through 11L models only) and cool white color temperatures available.



2L

Hazard•Gard® EVLL Series Explosionproof LED Luminaires

Class I, Division 1 factory-sealed LED luminaire for general illumination

Cl. I, Div. 1, Groups B, C, D Cl. I, Zone 1, Groups IIB + H2, IIB, IIA

Cl. II, Groups E, F, G

UL Listed & CSA Certified IEC / ATEX (Pending) Simultaneous Presence Marine & Wet Locations NEMA 4X, IP66

Catalog Numbering System:

SERIES	LAMP OUTPUT	LED COLOR	MOUNTING MODULE	HUB SIZE	GUARD	VOLTAGE	SUFFIXES
EVLL	5L	C	Α	2	0	/UNV1	

SERIES

EVLL Explosionproof Vaportight Low Profile LED Luminaire

LAMP OUTPUT

 5L
 5,625 Lumen Output

 7L
 6,750 Lumen Output

 9L
 9,000 Lumen Output

 11L
 10,500 Lumen Output

 13L
 13,500 Lumen Output

LED COLOR

C Cool (5600K nominal)

Warm (3000K nominal) (available on 5L through 11L models only)

MOUNTING MODULE

A Pendant EVSP J Stanchion EVSJ

BX Wall Bracket EVSW M Mounting Module Adapter EVSA (See Note #1)

CX Ceiling Mount EVSC Blank No Mounting Module Supplied

HUB SIZE

2 %" NPT (Pendant, Ceiling, and Wall Only)3 1" NPT (Pendant, Ceiling, and Wall Only)

5 1 ½" NPT (Stanchion Only)

25 mm (Pendant, Ceiling, and Wall Only)32 mm (Pendant, Ceiling, and Wall Only)

Blank Leave Blank for Mounting Module Adapter and No Mounting Module

GUARD

0 No Guard1 Stainless Steel

VOLTAGE (See Note #2)

/UNV1 120VAC to 277VAC 50/60 Hz, 108VDC to 250VDC

SUFFIXES

\$812 Trunnion Mount

Notes:

- EVSA Adapter for use with existing Eaton's Crouse-Hinds EVI, EVLP, and EVM mounting modules.
- Accessory kit EVLL347/480 K1 (step down transformer in separate enclosure) is available for 347V and 480V 60 Hz applications.

Hazard • Gard® EVLL Series **Explosionproof LED Luminaires**

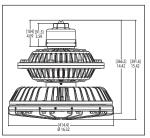
Class I, Division 1 factory-sealed LED **luminaire for general illumination**

Cl. I, Div. 1, Groups B, C, D Cl. I, Zone 1, Groups IIB + H2, IIB, IIA Cl. II, Groups E, F, G CI. III

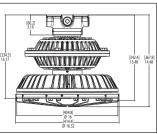
UL Listed & CSA Certified IEC / ATEX (Pending) Simultaneous Presence Marine & Wet Locations NEMA 4X, IP66

Dimensions (In Inches):

Pendant Mount

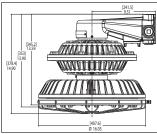












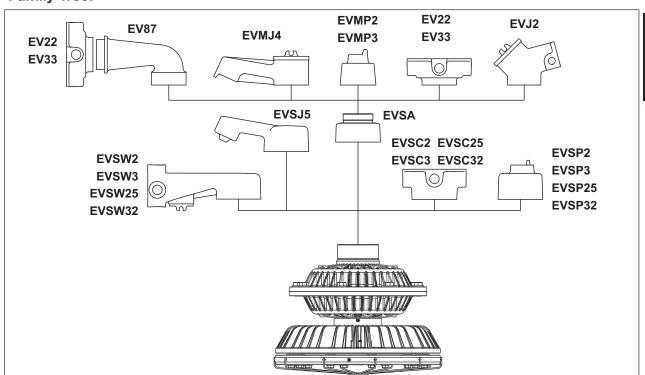
Weights:

Model	Lbs.
EVLL5L	51.76
EVLL7L	51.81
EVLL9L	52.38
EVLL11L	53.00
EVLL13L	53.00
Add Mounting Modules:	
Pendant	2.00
Ceiling	3.50
Stanchion	3.00
Wall	5.50
Adapter	2.00

Ambient Temperature:

/ 1111010110	. comporatare			
Model	Max. Ambient Temp. °C	Cl. I, Div. 1	Cl. II, Div. 1 & 2 / Simu. Presence	Cl. I, Zone 1
EVLL5L	40	T6	T5	Pending
	55	T6	T5	Pending
	65	T5	T5	Pending
EVLL7L	40	T6	T5	Pending
	55	T6	T5	Pending
	65	T5	T5	Pending
EVLL9L	40	T6	T5	Pending
	55	T6	T5	Pending
	65	T5	T5	Pending
EVLL11L	40	T6	T5	Pending
	55	T6	T5	Pending
EVLL13L	40	T6	T5	Pending
	55	T6	T5	Pending

Family Tree:



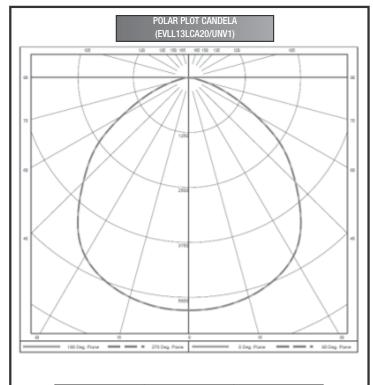
Crouse-Hinds by **F**:**T•N**

Class I, Division 1 factory-sealed LED luminaire for general illumination Cl. I, Div. 1, Groups B, C, D Cl. I, Zone 1, Groups IIB + H2, IIB, IIA Cl. II, Groups E, F, G

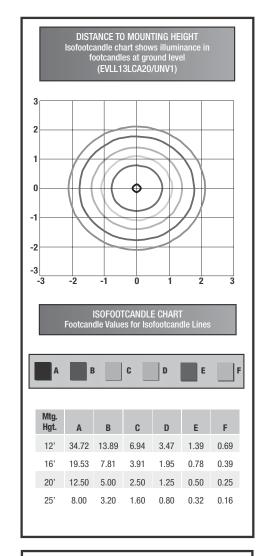
CI. III

UL Listed & CSA Certified IEC / ATEX (Pending) Simultaneous Presence Marine & Wet Locations NEMA 4X, IP66

Photometric Data:



ZONE (DEGREES)	LUMENS	% OF LUMINAIRE
0-30	4221	31.7%
0-40	6923	52.1%
0-60	11630	87.5%
0-90	13500	100.0%
90-180	0	0%
0-180	13500	100.0%



LUMEN OUTPUT FOR OTHER EVLL LED LUMINAIRES		
Luminaire Series	System Watts	Lumens
EVLL5L	80W	5625
EVLL7L	100W	6750
EVLL9L	130W	9000
EVLL11L	151W	10500
EVLL13L	175W	13500

Zone 1 high power LED pendant for general illumination

The LPL LED Family

The LPL LED Luminaire is available in five different versions, providing ideal solutions for a wide range of applications.

Model	Equivalent HID Luminaire	Typical Energy Savings
LPL04-C60-60W LPL04-C60-85W LPL04-C60-100W LPL06-C60-125W LPL06-C60-150W	70W-100W MH 150W MH 175W MH 175W-250W MH 250W MH	40%

Applications:

- Zone 1/Zone 2 Ex-Gas and Zone 21/Zone 22 Ex-Dust hazardous areas
- Heavy industrial, chemical, petrochemical, or pharmaceutical facilities
- Offshore platforms
- Shipyards
- · Electric power
- · Loading docks
- · Wastewater treatment plants
- · Paper mills

LPL LED Benefits:

Robust construction

- · Copper-free aluminum housing
- Tempered and impact-resistant glass globe, heat- and corrosionproof
- Explosionproof design suitable for Zones 1 and 2 (Ex-Gas) and Zones 21 and 22 (Ex-Dust) hazardous areas
- Standard U-shape mounting bracket for ceiling and wall mount; pole mount accessories are available (order separately)

Reduce operation and maintenance costs

- Energy-efficient 40% reduction in energy used versus equivalent metal halide HID luminaires
- 50,000 hours rated life eliminates need for frequent lamp replacement

Reliable performance in any environment

- High quality LED application, shock- and vibration-resistant
- T6 temperature rating
- Operating ambient -35°C to +50°C (60W-100W models); -35°C to +40°C (125W-150W models)
- Warm white color temperature (3300K) is available for special environments, such as fog or smoke
- Lead-free and environmentally friendly
- Insulation class I



Certifications and Compliances:

- Zones 1 and 2 (Ex-Gas)
- Zones 21 and 22 (Ex-Dust)
- Marking to 94/9/EC:
 Ex II 2 GD Ex d e IIC T6 Gb
 Ex II 2 GD Ex tb IIIC T80°C Db IP66
- EC-type Exam Certification: DNV 11 ATEX 06805X
- IECEx Certificate of Conformity: IECEx-CM 12.0007X
- IP66

Standard Materials:

- Housing copper-free aluminum
- Globe tempered and impact-resistant glass, heat- and corrosionproof

LED System:

- BridgeLux 10W-30W high power LED array
- Color temperature: 6000K cool white (standard); 3300K warm white (optional, for special order)
- CRI ≥ 65

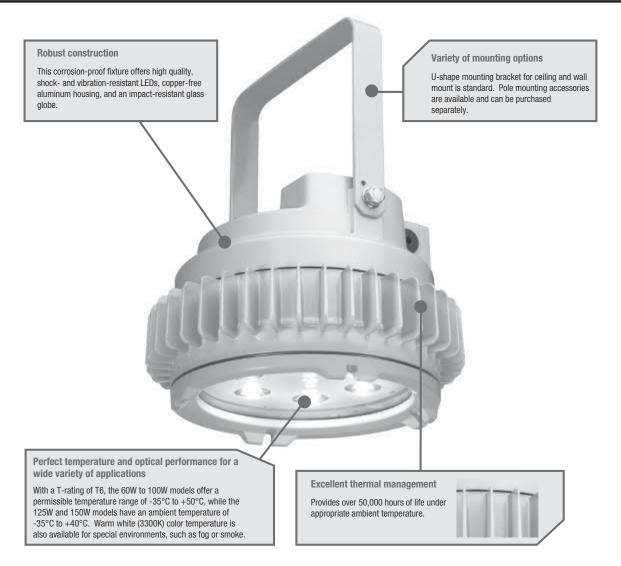
Electrical Ratings:

Model	Voltage	Power Factor	Input Power
LPL04-C60-60W	100-277VAC 50 / 60 Hz	> 0.9	60W
LPL04-C60-85W	100-277VAC 50 / 60 Hz	> 0.9	85W
LPL04-C60-100W	100-277VAC 50 / 60 Hz	> 0.9	100W
LPL06-C60-125W	100-277VAC 50 / 60 Hz	> 0.9	125W
LPL06-C60-150W	100-277VAC 50 / 60 Hz	> 0.9	150W

Specifications:

Light Angle	Cable Entry	Terminal	Permissible Ambient Temperature
120°	2 x M25 x 1.5, 1 entry plugged	3 pole, 0.5mm² to 6mm² for solid wire	-35°C to +50°C 60W, 85W, 100W -35°C to +40°C 125W, 150W

Zone 1 high power LED pendant for general illumination



Ordering Information - Cool White Color Temperature:

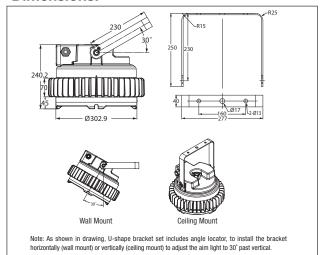
Ordering Code	Product Type	Wattage	Color Temperature	Ambient Temperature
CCL1090001A	LPL04-C60-60W	60W	6000K	-35°C - +50°C
CCL1090002A	LPL04-C60-85W	85W	6000K	-35°C - +50°C
CCL1090003A	LPL04-C60-100W	100W	6000K	-35°C - +50°C
CCL1090004A	LPL06-C60-125W	125W	6000K	-35°C - +40°C
CCL1090005A	LPL06-C60-150W	150W	6000K	-35°C - +40°C

Ordering Information - Warm White Color Temperature:

Ordering Code	Product Type	Wattage	Color Temperature	Ambient Temperature
CCL1090006	LPL04-W33-60W	60W	3300K	-35°C - +50°C
CCL1090007	LPL04-W33-80W	80W	3300K	-35°C - +50°C
CCL1090008	LPL04-W33-90W	90W	3300K	-35°C - +50°C
CCL1090009	LPL06-W33-110W	110W	3300K	-35°C - +40°C
CCL1090010	LPL06-W33-130W	130W	3300K	-35°C - +40°C

Zone 1 high power LED pendant for general illumination

Dimensions:

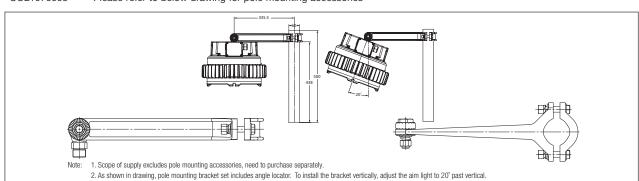


Weights: Kg. LPL04-C60-60W 17.0 LPL04-C60-85W 17.0 LPL04-C60-100W 17.0 LPL06-C60-125W 17.0 LPL06-C60-150W 17.0

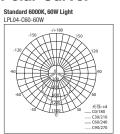
Pole Mounting Accessories (Order Separately):

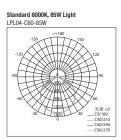
Ordering Code Product Type

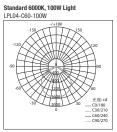
CCL1076003 Please refer to below drawing for pole mounting accessories



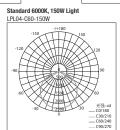
Polar Curve:











Cl. I, Div. 2, Groups A, B, C, D NEMA 4X; IP66 **UL** Listed **CSA** Certified

Marine and Wet Locations

For heavy industrial applications

The LL48 Linear LED Luminaire allows for the replacement of existing harsh and hazardous industrial fluorescent fixtures and provides an energy-efficient proven light source for use in applications where reliability is critical.

Luminaire Model:

Model	Equivalent Light Output	Energy Savings
LL48	2 x 58W fluorescent light	50%

Applications:

· Used for general lighting in indoor and outdoor areas with low mounting heights or confined spaces, such as aisles, tunnels and catwalks, over doorways or entries, landing areas, utility rooms, etc.

Certifications and Compliances:

NFC Standards:

- Class I, Division 2, Groups A, B, C, D
- NEMA 4X; IP66
- · Marine and Wet Locations

UL Standards:

- UL844 Electrical Fixture Hangers for Hazardous Locations
- UL1598 Luminaire
- UL1598A Luminaire for Installation on Marine Vessels CSA Standard:
- C22.2 No. 137

Standard Materials:

- Housing copper-free aluminum with Corro-free™ epoxy powder coat end caps and extruded aluminum body
- · Lens heat- and impact-resistant glass
- External hardware stainless steel

Electrical Ratings:

- 100VAC to 277VAC 50 / 60 Hz
- Power factor >0.9



Design Features:

- (A) Luminaire is designed to match the footprint of a traditional linear fluorescent fixture.
- ® Same light pattern and lumen output at a fraction of the energy cost.
- © Diffused lens reduces glare.
- D Shock- and vibration-resistant LEDs contain no mercury, eliminating costly lamp disposal programs.

Additional Features and Benefits:

Best-in-class reliability

- · Linear LED solution can withstand extreme vibration that would cause traditional technologies to fail
- Can handle temperature extremes down to -35°C where comparable products cannot operate
- Redundant drivers housed next to LED arrays for slim profile and superior heat dissipation
- · Redundant drivers and LED modules ensure the highest factor of safety in the industry

Versatile mounting options

- Ceiling mount standard (included with fixture)
- Choice of brackets for wall or pole mounting (ordered separately); can be mounted in any position to maintain ratings
- · Luminaire uses the same mounts as eLLK/nLLK Series

Reliable performance in any environment

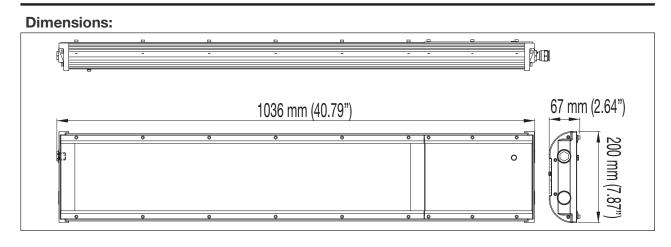
- T5 at 40°C, T4A at 55°C temperature ratings
- Operating temperature range: -35°C to +55°C

Ordering Information:

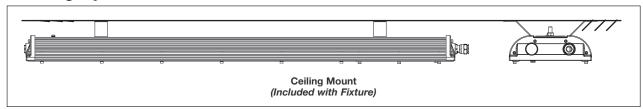
Cat. #	System Power	Glass Color	Entry	Lumen Output	ССТ
LL48-60W-765/-F-1M	56W	Frosted	M20	3716	Cool White, 6500K
LL48-60W-765/-C-1M	56W	Clear	M20	4380	Cool White, 6500K
LL48-60W-765/-F-1N	56W	Frosted	1/2" NPT	3716	Cool White, 6500K
LL48-60W-765/-C-1N	56W	Clear	1/2" NPT	4380	Cool White, 6500K

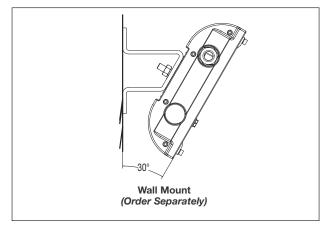
CI. I, Div. 2, Groups A, B, C, D NEMA 4X; IP66
UL Listed Marine and Wet Locations
CSA Certified

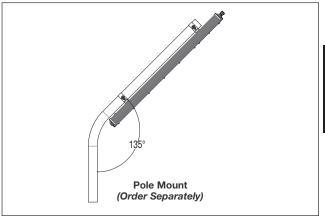
For heavy industrial applications



Mounting Styles:







Mounting Ordering Information:

	_	•
Cat. #		Description
12329778		Ceiling Mounting Bracket Kit
12329779		Clamp for Pole Mounting 11/4" Kit
12329900		Clamp for Pole Mounting 11/2" Kit
12329901		Clamp for Pole Mounting 2" Kit
12329902		Luminaire Wall Suspension 27° Kit
12329903		Luminaire Wall Suspension 30° Kit

Photometrics:

• LM79 data available upon request

Champ® VMV LED Series Cl. I, Div. 2, Groups A, B, C, D UL / cUL Listed Luminaires

Improve safety, reliability and energy efficiency

Cl. I. Zone 2

Cl. II, Groups E, F, G Cl. III

IECEx / ATEX Simultaneous Presence Wet Locations, Type 4X, IP66

The Champ VMV LED Family

VMV LED Series Luminaires are designed to provide full-spectrum, crisp, white light with custom IES Type I, III and V distribution. Five versions of the Champ VMV LED are available, providing ideal solutions for a wide range of applications.

Model	Nominal† Lumens (Type V)	Wattage	Equivalent HID Luminaire	Typical Energy Savings / Lifetime
VMV3L	3,515	41	70W-100W	Up to 77%
VMV5L	5,288	67	100W-150W	Up to 67%
VMV7L	7,404	94	150W-175W	Up to 67%
VMV9L	9.515	114	250W-400W	Up to 74%
VMV11L	10,935	118	400W	Up to 74%
†Tolerance +/-	10%.			•

Applications:

- · Locations requiring continuous and consistent light levels in extreme ambient temperatures
- · Areas requiring frequent on-and-off of liahts
- Where flammable vapors, gases, ignitable dusts, fibers or flyings are present; indoors or outdoors
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; food and beverage facilities; mining; platforms; loading docks; tunnels; indoor/outdoor spot lighting; outdoor wall and stanchion mounted general area lighting

Champ VMV LED Benefits:

- · Instant illumination and restrike
- Better visibility with crisp, white light
- Cold temperature operation / no warm-up required
- Redundancy in drivers with multiple series circuits connected to each driver to avoid complete loss of illumination
- Easy installation compact modular fixture attaches onto existing Champ mounting module
- Energy-efficient technology up to 77% energy savings over HID fixtures
- Provides up to 60.000 hours rated life and up to 170,000 hours of economic life eliminates need for frequent lamp
- · Contains no mercury or other hazardous substances
- · Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break - greatly reduces the risk of premature failure
- Operating ambient -40°C to 55°C
- · Dark sky compliant
- 5 year fixture warranty‡

‡Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

Certifications and **Compliances:**

DesignLights Consortium® pending for select models'

NEC and CEC

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, nA nR
- Class II, Groups E, F, G
- Class III
- Zone 21 tb
- Simultaneous Presence
- Wet Locations, Type 4X, IP66

UL Standards

- UL844
- UL1598 Luminaires, UL1598A Marine

CSA Standard

 cUL Listed to CSA Standard CSA C22.2 No. 137 IECEX/ATEX Standards

- IEC60079-0:2011/EN60079-0:2012 IEC60079-15:2010/EN60079-15:2010
- IEC60079-31:2008/EN60079-31:2009
- IEC60529:2001/EN60529:2001
- IEC60598-1:2008/EN60598-1:2008
- IEC60598-2:2008/EN60598-2:2008

- IECEX UL 13.0052X
 DEMKO 13 ATEX 1305741X
 DEMKO 13 ATEX 1475013X**

CE

- 100-277 VAC / 108-250 VDC Ex nA nR IIC T6 Gc -40°C to +40°C
- Ex nA nR IIC T5 Gc -40°C to +55°C Ex tb IIIC T72°C Db IP66 -40°C to +40°C
- Ex tb IIIC T87°C Db IP66 -40°C to +55°C
- € II 3 G Ex nA nR IIC T6 Gc -40°C to
- +55°C*
- ऒ I 2 D Ex tb IIIC T72°C Db IP66 -40°C to +40°C
- **⑤**II 2 D Ex tb IIIC T87°C Db IP66 -40°C to +55°C

347-480 VAC

- Ex nA nR IIC T4 Gc -40°C to +55°C
- Ex tb IIIC T70°C Db IP66 -40°C to +40°C
- Ex tb IIIC T85°C Db IP66 -40°C to +55°C
- € II 3 G Ex nA nR IIC T4 Gc -40°C to +55°C**
- ⊕ II 2 D Ex tb IIIC T70°C Db IP66 -40°C
 to +40°C
- ♠ II 2 D Ex tb IIIC T85°C Db IP66 -40°C to +55°C

*Cool white 120-277 VAC 3L-11L models. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.



Standard Materials:

- Lamp housing and adapter die cast aluminum with Corro-free™ epoxy powder coat
- Lens heat- and impact-resistant glass
- · Gaskets silicone
- External hardware stainless steel
- · Factory-sealed, no external seals required

LED System:

- High intensity discrete power emitters
- · Cool white (5000K, 70 CRI) and warm white (3000K, 80 CRI)
- · Custom optics designed to go over each discrete LED

Custom Optics:

Three optical options to maximize light distribution and intensity:

TYPE I

Ideal for:

- · Mining conveyor belts
- · Aisleways and hallways
- · Catwalks and walkways
- · Ramps and loading docks
- · Tunnels with overhead mounts

TYPE III

Ideal for:

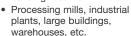
· Narrow crosswalks or passages with wall mounted fixtures



· Wall or stanchion mount requiring 180° forward throw beam patterns

TYPE V Ideal for:

· Pendant, ceiling or stanchion mount overhead building mounts







Champ® VMV LED Series Luminaires

Improve safety, reliability and energy efficiency

Cl. I, Div. 2, Groups A, B, C, D UL / cUL Listed Cl. I, Zone 2 Cl. II, Groups E, F, G CI. III

IECEx / ATEX Simultaneous Presence Wet Locations, Type 4X, IP66

 MAR.	1/0	KOI
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21110101	
Option	3L - 11L
/UNV1 /UNV34** /VDC‡	120-277 VAC, 50 / 60 Hz 347-480 VAC, 50 / 60 Hz 108-250 VDC, 50 / 60 Hz

^{**}No separate external transformer required to step down voltage. ‡Separate driver for DC applications.

Electrical Ratings:

	VMV3L	VMV5L	VMV7L	VMV9L	VMV11L
Voltage Range, VAC	120-277	120-277	120-277	120-277	120-277
Frequency	50 / 60 Hz				
Input Power (Watts)	41	67	94	114	118
Input Amps at 120-277 VAC	0.34-0.17	0.57-0.29	0.80-0.42	0.96-0.49	0.96-0.49
Voltage Range, VDC	108-250	108-250	108-250	108-250	108-250
Power Factor	>0.90	>0.90	>0.90	>0.90	>0.90
Nominal Lumens† (Type V)	3,515	5,288	7,404	9,515	10,935
†Tolerance +/- 10%.					

Design Features:

- (A) Installation and replacement made simple this contractor-friendly, modular design is ideal for both retrofit and new construction applications. These luminaires are installed in the same manner and use the same mounting modules as existing Champ® Series luminaires. The compact modular design of the VMVL allows for easy component replacement and future upgrade.
- ® High efficiency and lumen output custom high efficiency LED drivers are designed to provide reliable operation in even the harshest environments. Various AC and DC input voltage options are available to suit virtually any
- © Safe, reliable heat transfer die cast aluminum housing provides safe and effective heat transfer from the LED assembly to the outside environment, ensuring low LED junction temperature, reliability, and sustained lumen performance. The vertical fin design facilitates air flow and dust shedding. The impact-resistant lens is sealed from the outside environment and provides ingress protection against water and dust.
- ① Custom optics custom optics designed for discrete LED power emitters.
- (E) Ease of wiring and installation available with lever lock connectors and standard three-pole terminal block for ease of wiring and installation.

Custom Optics:

Custom optics designed for discrete LED power emitters:

- Type V standard
- Type I and Type III optional







Type I

Type III

Type V

Colored LED Options:

- · Available in red, blue, green and amber
- Reduction in light pollution for night space observation and sky glow due to isolating blue wavelength in red and amber colors
- Improves visibility for telescopes in observatories during night sky space exploration

2L

Champ[®] VMV LED Series Luminaires

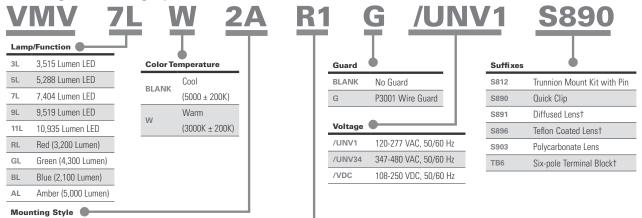
Improve safety, reliability and energy efficiency

Cl. I, Div. 2, Groups A, B, C, D UL / cUL Listed IECEx / ATEX

Cl. II, Groups E, F, G

UL / cUL Listed IECEx / ATEX Simultaneous Presence Wet Locations, Type 4X, IP66

Catalog Numbering System:



BLANK	No Cover
J	1-½" Stanchion 25°
Р	1-½" Stanchion Straight
2A	¾" Pendant
3A	1" Pendant
2B	¾" Cone Pendant
3B	1" Cone Pendant
2C	¾" Ceiling
3C	1" Ceiling
2HA	¾" Flexible Pendant
2TW	¾" Wall
3TW	1" Wall

^{*}For new construction, order R1A only.
**For new construction, order R3A1 only.
†Not available for IEC applications.

Optics	•
BLANK	Type V Optic Standard (All Mounts)
R1	Type I Optic (All Mounts Minus Ceiling)
R1A	Type I Optic (Ceiling with Conduit 45° Counterclockwise or 135° Clockwise from Hinge)*
R1B	Type I Optic (Ceiling with Conduit 45° Clockwise or 135° Counterclockwise from Hinge)*
R3	Type III Optic (All Mounts Minus Ceiling)
R3A1	Type III Optic (Ceiling with Conduit 45° Counterclockwise from Top Hat Hinge)**
R3A2	Type III Optic (Ceiling with Conduit 135° Clockwise from Top Hat Hinge)**
R3B1	Type III Optic (Ceiling with Conduit 45° Clockwise from Top Hat Hinge)**
R3B2	Type III Optic (Ceiling with Conduit 135° Counterclockwise from Top Hat Hinge)**

Options:

Description	Sumix
Wire guard with captive mounting hardware	P3001
Trunnion mount with redundant pin locking mechanism (ceiling mount required)	S812 K1
Quick Clip for quick installation	S890
Diffused lens for glare reduction ##	S891
Teflon coating on lens for additional shatter protection‡‡	S896
Polycarbonate lens available in applications where glass is prohibited	S903
Six-pole terminal block‡‡	TB6
++Net available for IEC applications	

Accessories (Ordered Separately): Description

	Separately)
Photocell, 120V, 50 / 60 Hz	D2S20
Photocell, 208-277V	
Occupancy sensor, 1/2" entry, 120 / 277 VAC***	
Occupancy sensor, 3/4" entry, 120 / 277 VAC****	COS2/UNV1
Occupancy sensor, 1" entry, 120 / 277 VAC***	COS3/UNV1
***For 347-480 VAC, replace /UNV1 with /UNV34.	

Cat. # (Ordered

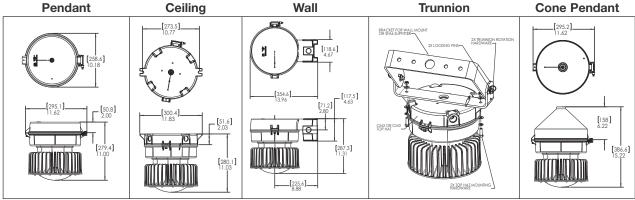
Champ® VMV LED Series Luminaires

Improve safety, reliability and energy efficiency

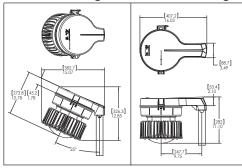
Cl. I, Div. 2, Groups A, B, C, D UL / cUL Listed Cl. I, Zone 2 Cl. II, Groups E, F, G Cl. III

IECEx / ATEX Simultaneous Presence Wet Locations, Type 4X, IP66

Dimensions:



Stanchion Angled Stanchion Straight



Weights:

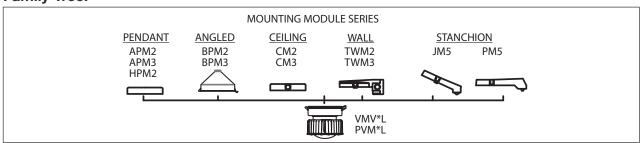
Net Luminaire Weight:	21.8 lbs.	8.07 kg.
Mounting Module add (lb.)		
Pendant	1.25	0.57
Cone Pendant	4.00	1.81
Flexible Pendant	1.50	0.68
Ceiling	2.75	1.25
Wall	4.50	2.04
Angle Stanchion	3.50	1.59
Straight Stanchion	4.50	2.04

Temperature Codes:

Model	Driver Type	Ambient	Cl. I, Div. 2 / Zone 2, nA, nR	Cl. II, Div. 1	Sim. Pres. / Cl. I, Div. 2 / Cl. II, Div. 1	Zone 21
	/UNV1 (100-277 VAC)	40°C	T6	T5	T3C	T72
3L, 5L, 7L,	/VDC (108-250 VDC)	55°C	T5	T4A	T3B	T87
9L, 11L‡	/UNV34 (347-480 VAC)	40°C	T4	T5	T3C	T70
		55°C	T4	T4A	T3A	T85
RL, GL,	/UNV1 (100-277 VAC)	40°C	T5	T6	T4A	T60
BL, AL		55°C	T4	T6	T4A	T75

‡Teflon and diffused glass options are only NEC certified for: Class I, Division 2/Sim. Pres. - T3C (40°C); T3B (55°C) for /UNV1 and /VDC, and T3C (40°C); T3A (55°C) for /UNV34. Class II, Division 1 - T5 (40°C); T4A (55°C) for /UNV1, /VDC and /UNV34.

Family Tree:



2L Champ® VMV LED Series Luminaires

Improve safety, reliability and energy efficiency

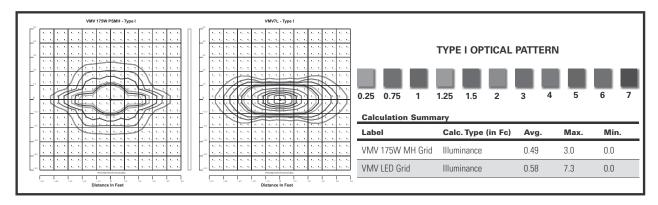
Cl. I, Div. 2, Groups A, B, C, D UL / cUL Listed Cl. I, Zone 2 IECEx / ATEX

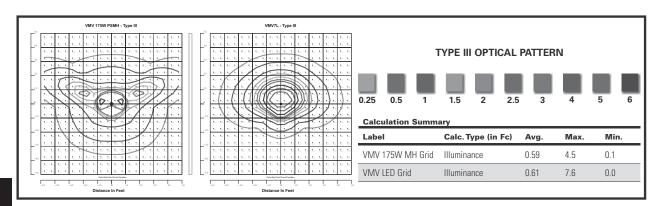
Cl. II, Groups E, F, G Cl. III

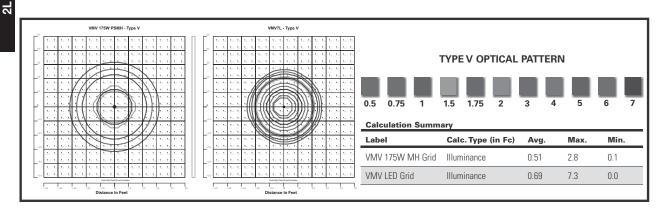
UL / cUL Listed IECEx / ATEX Simultaneous Presence Wet Locations, Type 4X, IP66

Photometric Data:

Photometric Layout Comparison - Champ® VMV7L LED Versus 175W Metal Halide:







Actual Lumens (Nominal†)	3L	5L	7L	9L	11L
Type I	3,115	4,687	6,562	8,437	9,692
Type III	3,271	4,921	6,890	8,859	10,177
Type V	3,515	5,288	7,404	9,519	10,935

Champ® FMV LED Series Floodlight Fixtures

Cl. I, Zone 2 Cl. II, Groups E, F, G

CI. III

Cl. I, Div. 2, Groups A, B, C, D UL Listed & CSA Certified IECEx / ATEX Simultaneous Presence Wet Location, Type 4X, IP66

The Champ FMV **LED Family**

FMV LED Series Floodlights are designed to provide full-spectrum, crisp, white light. Five versions of the Champ FMV LED are available, providing ideal solutions for a wide range of applications.

FMV	Equivalent MH	Energy		
Model	HID Lamp	Savings		
FMV 5L FMV 7L FMV 9L FMV 11L FMV 13L	100W-150W 150W-175W 175W-250W 250W-400W 400W			

Applications:

- Five lumen outputs allow for installation in numerous mounting heights
- · Locations requiring continuous and consistent light levels in extreme ambient temperatures
- · Areas requiring frequent on-and-off of lights
- · Where flammable vapors, gases, ignitable dusts, fibers or flyings are present: indoors or outdoors
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations, and hose-down environments
- Indoor and outdoor area lighting in plants, buildings, and parking areas
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; platforms; loading docks; outdoor mounted general area lighting

Drivers:

Model 5L - 13L

90-305 VAC, 50 / 60 Hz; Standard 108-250 VDC

Option 1 347 VAC Model 480 VAC Model Option 2

Champ FMV LED Benefits: **Enhance safety and productivity**

- · Instant illumination and restrike
- Better visibility with crisp, white light
- Minimum T4 temperature rating safely operate in the most hazardous environments and any non-hazardous location
- Cold temperature operation / no warm-up required

• "No lights out" feature - if a single LED fails, others will remain lit from other drivers - minimum 50% output maintained

• Terminals - 3 x 6 sq. mm. for IEC version

Reduce operation and maintenance costs

- Easy installation compact modular fixture attaches onto existing SFA6 and SWB6
- Energy-efficient technology use up to 1/2 the power of standard HID luminaires
- Provides up to 60,000 hours rated life eliminates need for frequent lamp replacement
- Contains no mercury or other hazardous substances

Reliable performance in any environment

- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break - greatly reduces the risk of premature failure
- Operating ambient -40°C to 55°C
- Dark sky friendly with optional visor

Certifications and **Compliances:**

DesignLights Consortium® approved for select models (refer to Ordering Information for details)

NEC and CEC

- · Class I, Division 2, Groups A, B, C, D
- · Class I, Zone 2
- Class II, Groups E, F, G
- Class III
- Simultaneous Presence
- Wet Locations, Type 4X, IP66

UL Standards

- III 844
- UL1598 Luminaires, UL1598A Marine

CSA Standard

• CSA C22.2 No. 137

IFCF_X/ATFX

- IECEx UL 11.0054X
- Ex nA nR IIC T4 Gc Tamb -30°C to +55°C
- Ex nA nR IIC T5 Gc Tamb -30°C to +40°C
- Ex tc IIIC T68°C Dc IP66 Tamb -30°C to 40°C
- DEMKO 12 ATEX 115535X
- Ex II 3 G Ex nA nR IIC T4 Gc Tamb -30°C to +55°C
- Ex II 3 G Ex nA nR IIC T5 Gc Tamb -30°C to +40°C
- Ex II 3 D Ex tc IIIC T68°C Dc IP66 Tamb -30°C to +40°C
- CEPEL Ex-1956/10



Standard Materials:

- Housing copper-free aluminum with Corro-free™ epoxy powder coat
- Lens shatter-resistant glass
- Gaskets silicone
- External hardware stainless steel
- · Factory-sealed, no external seals required

LED System:

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- · Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- LM-80 reports available upon request

Options:

Description	Suffix
Fused (only applies to	
UNV1 model, not available	
for 347V or 480V;	
NOT marine or cUL Listed)	
(NEC version only)	S658
Two conduit/cable glands of	
like thread installed	S886

Accessories (Order Separately):

(Oraci Coparatory):	
Description	Cat. No.
Bolt-on visor	
(sold separately)	DSV1
Bolt-on wire guard	
(sold separately)	P61
Floodlight slipfitter	
(sold separately)	SFA6
Slipfitter wall mount adapter	
(sold separately)	SWB6

Electrical Ratings:

	FMV 5L	FMV 7L	FMV 9L	FMV 11L	FMV 13L
Vallaga Dagga VAQ			100-277V 50	/ 60 Hz	
Voltage Range, VAC			347 / 480V	60 Hz	
Voltage Range, VDC	108-250	108-250	108-250	108-250	108-250
Input Power (Nom.)	64	89	121	149	179
Input Amps (Max.)	0.550	0.800	1.083	1.608	1.608
Power Factor	>0.85	>0.85	>0.85	>0.85	>0.85

Cl. I, Zone 2

Cl. II, Groups E, F, G

Cl. III

IECEx / ATEX Simultaneous Presence Wet Location, Type 4X, IP66

Safe, reliable heat transfer

The heat sink was designed to perform in high ambient temperatures up to +55°C and as low as -40°C. The thick walls of the castings make for a tough, rugged housing that keeps the internal driver and LED temperatures down, allowing them to



perform flawlessly, and protects them from damage. Separated driver and LED housing allows dust to shed from fixture.

Installation and replacement made simple

The full-frame yoke was designed to utilize the SFA6 slipfitter and SWB6 wall mount bracket (sold separately), making it ideal for retrofit or new installations. The modular design of the FMV LED allows for easy driver or LED replacement, and allows for the addition of the optional visor or quard in the field. Single cable gland provided with a second plugged cable entry, if an additional cable gland is needed.



High efficiency and lumen output

High efficiency drivers and LED arrays provide reliable low cost operation in harsh and hazardous environments. Components were chosen to give industry-leading light output from an LED flood. Replaceable drivers and LEDs for ease of maintenance and "no lights out" feature.







Suitable for hazardous location use in gas or dust areas. Can be used for outdoor or indoor applications, and for a wide range of mounting heights depending on model and light level requirement. Optics were specifically designed to give the familiar and industry-accepted butterfly beam light





Optional equipment

Cool (C) and Warm (W) white color temperatures available. Optional visor offered (sold separately) to control light spill. Optional wire guard offered (sold separately) to protect lens from damage. Other options available - consult part numbering guide.

Champ® FMV LED Series Floodlight Fixtures

Cl. I, Div. 2, Groups A, B, C, D UL Listed & CSA Certified Cl. I, Zone 2

Cl. II, Groups E, F, G

CI. III

IECEx / ATEX Simultaneous Presence Wet Location, Type 4X, IP66

Catalog Numbering System:

SERIES	LIGHT Source	COLOR	MOUNT	VOLTAGE	OPTICAL DISTRIBUTION	SUFFIXES
FMV	9L	C	Υ	/UNV1	76	S658

SERIES

FMV NEC version with Class/Division ratings NFMV IEC version with Class/Zone ratings

LIGHT SOURCE / INTENSITY

5L 100W - 150W equivalent 7L 150W - 175W equivalent 9L 175W - 250W equivalent 11L 250W - 400W equivalent 13L 400W equivalent **COLOR TEMPERATURE**

C 5600K (cool white) W 3000K (warm white)

MOUNT

Yoke

VOLTAGE

/UNV1 100 VAC to 277 VAC 50/60 Hz, 108 VDC to 250 VDC

/120 120 VAC 50/60 Hz** /347 347 VAC 60 Hz /480 480 VAC 60 Hz

OPTICAL DISTRIBUTION

76 Floodlight pattern optics included

SUFFIXES

M20 20mm metric threads for conduit opening (NFMV only)* M25 25mm metric threads for conduit opening (NFMV only)*

S658 Fused; for UNV1 only; not for marine or cUL S886 Two conduit/cable glands of like thread installed

ADDITIONAL ITEMS (SOLD SEPARATELY)

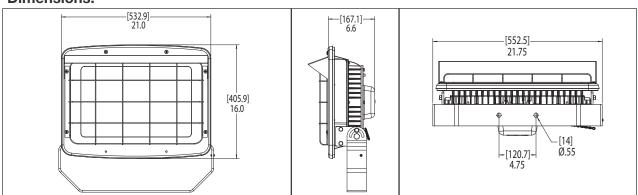
DSV1 DSV dark sky visor

P61 Wire guard factory installed

SFA6 Floodlight slipfitter

SWB6 Slipfitter wall mount adapter

Dimensions:



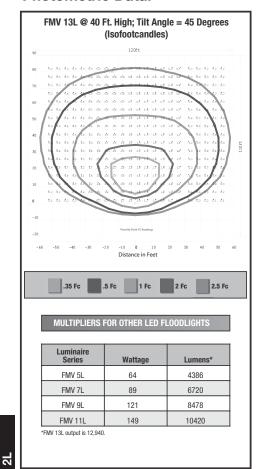
Crouse-Hinds by **F**IT•N

^{*}Required for NFMV. Please specify conduit entry.

**5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions. DesignLights Consortium® approved models. Cool white only.

CI. III

Photometric Data:



Weights:

3			
ı	Model	Lbs.	Kg.
	5L	39.11	17.74
	7L	39.16	17.76
	9L	39.73	18.02
	11L	40.35	18.30
	13L	40.35	18.30

Ambient Temperature:

	Max. Temp. °C	Cl. I, Div. 2	Cl. I, Zone 2	Simu. Presence Div. 1 and Div. 2	Cl. II, Div. 1	CI. III
ENAV. EL	40	T3C	T5	T3A	T5	T5
FMV 5L	55	T3C	T4	-	-	-
ENAV / 71	40	T3C	T5	T3A	T5	T5
FMV 7L	55	T3C	T4	-	-	-
EMM OI	40	T3C	T5	T3A	T5	T5
FMV 9L	55	T3C	T4	-	-	-
ENAV 441	40	T3C	T5	T3A	T5	T5
FMV 11L	55	T3C	T4	-	-	-
FMV 13L	40	T3C	T5	T3A	T5	T5
FIVIV ISL	55	T3C	T4	-	_	-

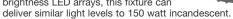
Leading the way in LED technology for industrial and hazardous applications

Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups F, G IECEX/ATEX UL Listed & CSA Certified Wet Location NEMA 4X IP66

The Vaporgard LED Family:

V2LC/UNV - Cool White Color Temperature

The V2LC/UNV Luminaire provides uniform crisp, white light and is suitable for lower mounting heights, confined spaces, tunnels, or utility rooms. Using four high power, high brightness LED arrays, this fixture can



V2LW/UNV - Warm White Color Temperature

The V2LW/UNV Luminaire provides similar benefits as the cool white version, but with a color rendering more consistent with a warm incandescent or HPS lamp source. Perfect for situations where Vaporgard LED will be installed next to a warmer color light source.

DC Power Supply - Available for Applications Requiring DC Power

For applications with DC power requirements such as solar or back-up battery. The DC power supply is suitable for 12VDC through 24VDC.

Applications:

Vaporgard LED Luminaires are ideal for use in:

- Wet, dirty, dusty, corrosive, hot/cold conditions
- · Hazardous locations
- Confined space or low ceiling areas, such as tunnels, utility rooms, over doorways or entries, top of landings, etc.
- · Areas requiring frequent on/off of lights
- · Areas where maintenance is difficult or challenging
- Areas requiring shatter-protected products, such as food processing facilities
- Outdoor wall or ceiling mounted area illumination
- Low mounting heights

Vaporgard LED Benefits:

Enhance safety and productivity

- Instant illumination and restrike
- Cold temperature operation; no warm-up time
- Multi-die LED arrays improve reliability
- Lightweight, low profile, and cool surface temperatures
- Driver with internal fusing for branch circuit protection

Reduce operation and maintenance costs

- 22 watt LED system can save up to 85% in energy costs
- 50K hours rated life can provide >10 years of maintenance-free lighting
- No mercury or hazardous chemicals eliminates disposal concerns
- Mounts to existing Vaporgard mounting modules

Reliable performance in any environment

- Shock- and vibration-resistant
- Teflon coated lens (suffix S896) option for increased safety in food processing facilities
- Low starting temperature: -30°C
- Operating ambient: -30°C to 55°C (High Temperature Option)
- Dark sky compliant

Certifications and Compliances:

- RoHS Compliant
- DesignLights Consortium® approved for select models (refer to Ordering Information for details)

NEC and CEC

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 1, Groups F, G
- NEMA 4X

UL Standards

- IP66
- UL844

- UL1598A Marine
- UL1598 Wet Locations

CSA Standard

CSA C22.2 No. 137

IECEx/ATEX

- Ex II 3 G Ex nA IIC T4 Gc (T4 at 55°C)
- Ex II 3 D Ex tc IIIB T69°C Dc IP66
- EN60079-0:2009, EN60079-15:2010, EN60079-31:2009

Standard Materials:

- Body and mounting modules copper-free aluminum with Corro-free™ epoxy powder coat
- Lens bezel aluminum with anodized finish
- Lens heat- and impact-resistant glass
- Gaskets silicone
- External hardware stainless steel
- · Factory-sealed, no external seals required

LED System:

- (4) High brightness LED arrays
- Cool white (5600K), CRI 65
- Warm white (3000K), CRI 82
- 70% lumen maintenance (L70) at 50K hours
- Junction temperature T_i <90°C ensures long life
- Array complies with requirements of IEC LM80

LED Drivers:

- · Constant current regulated power supply
- 90VAC 264VAC, 277VAC, 50/60Hz
- Internal fusing
- Active power factor correction. >0.9
- Low harmonic distortion, <20%
- Low inrush current, <20 amps
- EMC compliant to 47CFR, Part 2, Part 15
- 12VDC/24VDC option available

Options:

Description	Suffix
Frosted lens reduces glare in applications where the user may have direct visual contact with the light source (NEC version only)	S891
Teflon coating on lens provides additional shatter protection for applications in food and beverage facilities (NEC version only)	S896
High temperature option allows operation up to 55°C ambient temperature (AC unit only)	
Brazil (CEPEL) certification (IEC version only)	BR

Electrical Ratings:

Series

	V2LC/UNV1*	V2LW/UNV1	V2LC/DC1	V2LW/DC1
Voltage	90-264VAC, 277VAC	90-264VAC, 277VAC	12-24VDC	12-24VDC
Input Power (Watts)	22	22	22	22
Input Current	0.23 / 0.10	0.23 / 0.10	2.1 / 1.0	2.1 / 1.0
Power Factor	>0.9	>0.9	N/A	N/A
THD (I) (%)	<20%	<20%	N/A	N/A
Maintained Lumens	1633	1400	1633	1400
Efficacy, LPW	64	56	64	56
Color Temperature	5600K	3000K	5600K	3000K

*5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions. DesignLights Consortium approved models. 21

Leading the way in LED technology for industrial and hazardous applications

CI. I, Div. 2, Groups A, B, C, D CI. II, Div. 1, Groups F, G IECEX/ATEX UL Listed & CSA Certified Wet Location NEMA 4X IP66

Installation and replacement made simple

This contractor-friendly design is ideal for both retrofit and new construction applications. These luminaires are installed using the same wall and ceiling mounting modules as existing Vaporgard fixtures.



Safe, reliable heat transfer

Heat sink - engineered to safely and effectively remove heat from the LED and the driver, while providing durable protection for the optical elements of the fixture. This unique design increases overall flexibility of the luminaire by reducing both driver temperature and junction temperature of the LED arrays.



Easy Maintenance and Component Replacement

The compact and modular design of the Vaporgard LED allows for both easy component replacement and future upgrade.



Unique domeless, low profile design

Unique domeless, low profile design for low mounting heights and confined spaces where incandescent and HID based luminaires are too large to fit the mechanical envelope required.



Four high power multi-die LED arrays provide instant on and full illumination throughout specified operational temperature range. Since LEDs contain no filament or lamp, the fixture can survive even the harshest environmental conditions and exposure to high, repeated vibration.



Leading the way in LED technology for industrial and hazardous applications

Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups F, G IECEx/ATEX

UL Listed & CSA Certified Wet Location NEMA 4X **IP66**

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Ordering	Information	-	NEC	and	CEC:

	Cool White		Warm White	
Mounting Style	AC Drive	DC Drive	AC Drive	DC Drive
½" Pendant*	V2LCA1/UNV1***	V2LCA1/DC1	V2LWA1/UNV1	V2LWA1/DC1
³/₄" Pendant*	V2LCA2/UNV1***	V2LCA2/DC1	V2LWA2/UNV1	V2LWA2/DC1
1" Pendant*	V2LCA3/UNV1***	V2LCA3/DC1	V2LWA3/UNV1	V2LWA3/DC1
1/2" Wall with Junction Box	V2LCHBF1/UNV1***	V2LCHBF1/DC1	V2LWHBF1/UNV1	V2LWHBF1/DC1
3/4" Wall with Junction Box	V2LCHBF2/UNV1***	V2LCHBF2/DC1	V2LWHBF2/UNV1	V2LWHBF2/DC1
½" Ceiling	V2LCHF1/UNV1***	V2LCHF1/DC1	V2LWHF1/UNV1	V2LWHF1/DC1
³/₄" Ceiling	V2LCHF2/UNV1***	V2LCHF2/DC1	V2LWHF2/UNV1	V2LWHF2/DC1
½" VXT Wall	V2LCHT1/UNV1***	V2LCHT1/DC1	V2LWHT1/UNV1	V2LWHT1/DC1
³/₄" VXT Wall	V2LCHT2/UNV1***	V2LCHT2/DC1	V2LWHT2/UNV1	V2LWHT2/DC1
¹/₂" VXW Wall*	V2LCHW1/UNV1***	V2LCHW1/DC1	V2LWHW1/UNV1	V2LWHW1/DC1
³/₄" VXW Wall*	V2LCHW2/UNV1***	V2LCHW2/DC1	V2LWHW2/UNV1	V2LWHW2/DC1
11/4" Stanchion*	V2LCHJ4/UNV1***	V2LCHJ4/DC1	V2LWHJ4/UNV1	V2LWHJ4/DC1
Adapter Only**	V2LCHR/UNV1***	V2LCHR/DC1	V2LWHR/UNV1	V2LWHR/DC1

^{*}For use in Class I, Division 2 or Class II, Division 1, Groups F, G. For Class II, you must order complete catalog number (not available for purchase in components).

Ordering Information - IECEx/ATEX:

· ·	Cool White	Warm White
Mounting Style	AC Drive	AC Drive
½" Pendant	NV2LCA1/UNV1	NV2LWA1/UNV1
³/₄" Pendant	NV2LCA2/UNV1	NV2LWA2/UNV1
1" Pendant	NV2LCA3/UNV1	NV2LWA3/UNV1
1/2" Wall with Junction Box	NV2LCHBF1/UNV1	NV2LWHBF1/UNV1
3/4" Wall with Junction Box	NV2LCHBF2/UNV1	NV2LWHBF2/UNV1
½" Ceiling	NV2LCHF1/UNV1	NV2LWHF1/UNV1
³/₄" Ceiling	NV2LCHF2/UNV1	NV2LWHF2/UNV1
¹/₂" Wall	NV2LCHT1/UNV1	NV2LWHT1/UNV1
³/₄" Wall	NV2LCHT2/UNV1	NV2LWHT2/UNV1
11/4" Stanchion	NV2LCHJ4/UNV1	NV2LWHJ4/UNV1

Note: For IEC applications, you must order complete catalog number (not available for purchase in

Weights:

Luminaire & Mounting Module Weight	Lbs.
Pendant Mount	5.7
Ceiling Mount	6.8
Wall Mount	7.9
Stanchion Mount	6.5

Temperature Ratings:

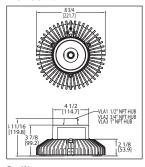
	9	
	Max. Temp. °C	Temp. Rating†
V2LC/UNV1	40	T5
V2LC/UNV1 S902	55	T4A
V2LC/DC1	40	T5
NV2LC/UNV1	40	T4
NV2LC/UNV1 S902	55	T4

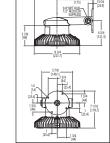
[†]Contact your local sales representative for warm white temperature ratings.

Crouse-Hinds

by **F**IT•N

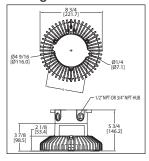
Pendant



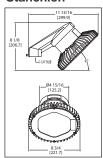


Wall

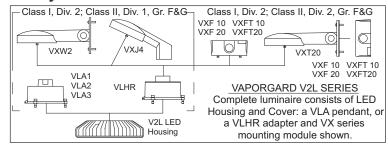
Ceiling



Stanchion



Family Tree:

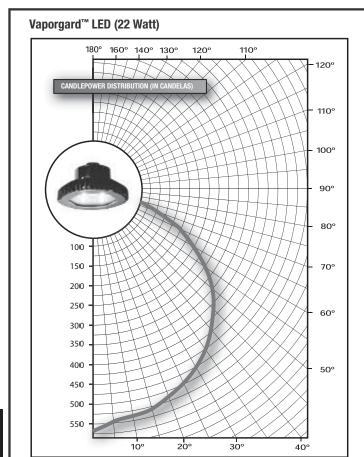


^{**}For use when wall mount or ceiling mount box is already installed.
***5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions. DesignLights Consortium® approved models. Cool white only **Dimensions:**

Leading the way in LED technology for industrial and hazardous applications

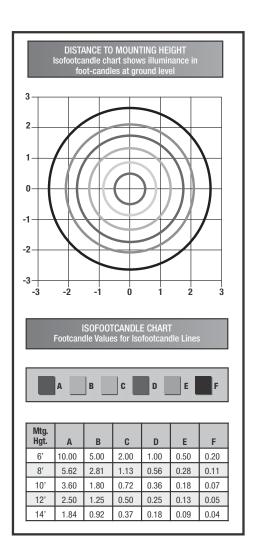
CI. I, Div. 2, Groups A, B, C, D CI. II, Div. 1, Groups F, G IECEX/ATEX UL Listed & CSA Certified Wet Location NEMA 4X IP66

Photometric Data:



EOWE EOWETTO				
ZONE	LUMENS	% LUMEN		
0-30	468	28.65		
0-40	772	47.30		
0-60	1374	84.15		
0-90	1633	100.00		
40-90	860	52.70		
60-90	259	15.85		
90-180	0	0.00		
0-180	1633	100.00		

ZONAL LUMENS



21

N2LPS LIGHT-PAK™ Emergency Lighting System

CI. I, Div. 2, Groups B, C, D CI. I, Zone 2 CI. II, Div. 2, Groups F, G Wet Locations, Marine NEMA 3, 3R, 4X Ambient 0°C to 55°C

Applications:

LED N2LPS Light-Pak™ emergency lighting systems are used:

- To provide reliable illumination for egress areas during failure or interruption of power to the normal lighting system
- In areas where flammable gases or vapors may become present due to abnormal, unusual, or accidental conditions
- In manufacturing plants, refineries, petrochemical and chemical plants, waste and sewage treatment facilities, oil terminals, food processing facilities, breweries, and other industrial manufacturing or process industry facilities subject to wet or corrosive conditions
- To illuminate machinery or panels during a loss of AC power
- Where moisture, dirt, dust, or corrosion will limit the life and reliability of ordinary emergency lighting systems
- Where required by the National Electrical Code®, the Life Safety Code® or other applicable codes
- · Outdoor applications

Features:

- Compact, factory-assembled luminaire featuring LED lamps for improved lumen performance, on-time, and lamp life
- Nonmetallic, enclosed, and gasketed housing provides corrosion protection in the most extreme environments
- Durable and marine rated LED lamp head assemblies provide protection against water ingress, corrosion, and impact
- High temperature rated nickel cadmium battery for reliable operation up to 55°C ambient
- Solid state battery charger for long life and reliable battery operation prevents deep discharge by automatically disconnecting the battery from the luminaire
- Factory-installed "push-to-test" button
- Self-test, monitoring, and diagnostics reduce costly maintenance checks
- Remote luminaire head assemblies (one or two) are available for mounting of luminaire heads away from main power system
- Stainless steel drain minimizes moisture collection
- Standard battery disconnect switch (Krydon® unit)

Certifications and Compliances:

NEC/CEC:

 Class I, Division 2, Groups B, C, D, Zone 2

UL Standards:

- 1598A (Supplemental Requirements for Luminaires for Installation on Marine Vessels)
- 924 (Emergency Lighting and Power Equipment)
- 844 (Electric Luminaires Hazardous Locations)

CSA Standards:

- C22.2 No. 141-M1985 unit equipment for emergency lighting
- C22.2 No. 137-M1981 non-incendive electrical equipment for use in Class I, Division 2 hazardous locations
- Life Safety Code NFPA101® Section 5-9 (Emergency Lighting)
- Marine wet locations suitability, Type 4X

Standard Materials:

- Power supply and remote luminaire enclosures – Krydon® fiberglassreinforced polyester
- LED lamp head assembly epoxy powder coated stainless steel
- Exterior hardware nylon, plastic coated, and stainless steel
- Cover gasket Hypalon® synthetic rubber

Temperature Performance Data:

Based on 55°C ambient

Cat. #	Class I, Division 2	Class II, Division 1
N2LPS (all)	40°C - T5; 55°C - T4A	T6
N2RF (all)	T5	T6

Note: Ambient temperature at which the Light-Pak system is rated is 0°C to 55°C. Operation at temperatures outside this range will affect the battery life and/or charging performance.

Note: Battery time in emergency mode is 90 minutes. National Electrical Code and Life Safety Code are registered trademarks of the National Fire Protection Association. Inc.

Noryl is a registered trademark of General Electric Company.



Electrical Ratings:

Power supply –

Input: 120, 220, 230, 240, or 277 VAC, 50 or 60 Hz; 9 watts max.

Output: 18 watts max. at 12 VDC

Luminaire heads –

Voltage: 12 VDC; Lamp: 3 watt LED Total lumen output: 80

Unit Net Weights:

- N2LPS12222 16 lbs.
- N2LPS12220 12 lbs.
- N2RF1221 8 lbs.
- N2RF1222 9 lbs.

2

2L N2LPS LIGHT-PAK™ Emergency Lighting System

Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 2 Cl. II, Div. 2, Groups F, G Wet Locations, Marine NEMA 3, 3R, 4X Ambient 0°C to 55°C

Ordering Information:

Description	Cat. #
28 watt, 12 volt power supply assembly with two 3 watt LED lamp heads	N2LPS12222
28 watt, 12 volt stainless steel power supply assembly with two 3 watt LED lamp heads	N2LPS12222 SS
28 watt, 12 volt power supply assembly less luminaire heads	N2LPS12220*
Remote luminaire assembly with one 3 watt LED lamp head	N2RF1221*
Remote luminaire assembly with two 3 watt LED lamp heads	N2RF1222*
28 watt, 120V LED Light-Pak with single sided exit sign**	N2LPS12222/120 EXS DR0391734
28 watt, 277V LED Light-Pak with single sided exit sign**	N2LPS12222/277 EXS DR0391734
28 watt, 120V LED Light-Pak with double sided exit sign**	N2LPS12222/120 EXD DR0391734
28 watt, 277V LED Light-Pak with double sided exit sign**	N2LPS12222/277 EXD DR0391734

Note: Up to four (4) remote LED lamp assemblies can be connected to the N2LPS12222. Up to six (6) remote LED lamp assemblies can be connected to the N2LPS12220.

Wire Sizing for Remote Installation:

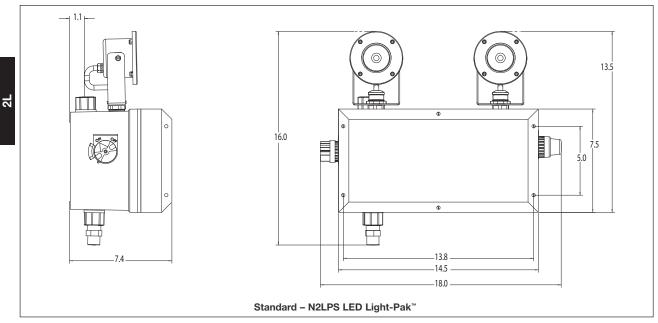
For Copper Wire -

Running Distance† (ft.) Between Power Supply and Remote Luminaire

	Load In Watts				Load In Watts					
Wire Size	8	16	24	32	Wire Size	8	16	24	32	
16 AWG	26	13	6	3	10 AWG	106	53	26	13	
14 AWG	42	21	10	5	8 AWG	168	84	42	21	
12 AWG	66	33	16	8	6 AWG	270	135	67	33	

†Maximum distance to limit line voltage drop to 5%.

Dimensions (N2LPS):

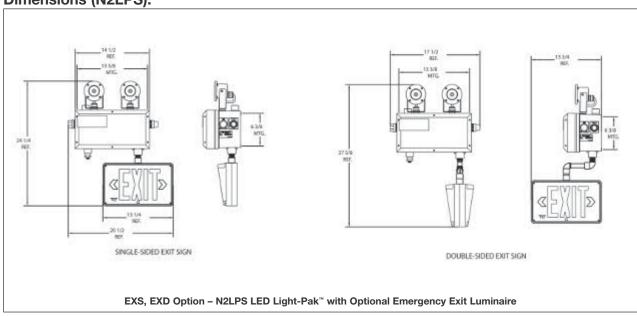


^{*}Not cUL approved. UL Listed only.
**Exit sign operates in both normal and emergency mode.

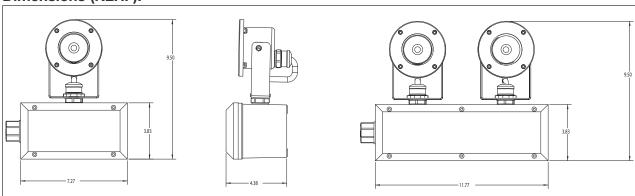
N2LPS LIGHT-PAK™ Emergency Lighting System

Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 2 Cl. II, Div. 2, Groups F, G Wet Locations, Marine NEMA 3, 3R, 4X Ambient 0°C to 55°C

Dimensions (N2LPS):



Dimensions (N2RF):



Detail Indication Logic:

Status Indication	Status Description	Status Definition	
	No Light	AC Power Removed from Circuit	
*	Steady Light (No Blinks)	Fully Charged	
_	Light Blinks Once	Battery Charging	
_	Light Blinks Twice	Battery Failure	
_	Light Blinks Three Times	Circuit Failure	

The Ex-Lite Z is available as an AC only version, while the Ex-Lite ZE is available with self-contained battery. As an emergency lighting luminaire with self-contained battery system, the Ex-Lite ZE features a nickel cadmium battery with automatic test and monitoring feature.

Applications:

 In harsh and hazardous environments where illuminated exit signs are required

Features and Benefits:

LED Technology:

- Long life (>50K hours) for years of maintenance-free operation
- Energy-efficient for lower cost of operation
- Low temperature operation with no loss of illumination
- Rugged and durable light source for the harshest of environments

Exit Sign System:

- Can be used in a hazardous location
- · Conduit or cable entry
- Can be installed in moist, humid, rain, and wet environments
- Universal input voltage 110VAC-277VAC and 110VDC-250VDC reduces inventory
- Ex-Lite ZE with self-monitoring, selfdiagnostic, and test capability
- Premium heavy-duty nickel cadmium battery
- 24-hour charge and recharge time increases safety by recovering quickly from outage
- "EXIT" legend with alternative wings left, right, or left and right; simple field modification
- Emergency lighting cycle three hours
- The housing of the luminaire is constructed with a corrosion resistant, robust, lightweight aluminum alloy material and illumination of the sign is provided with red, high-efficient LEDs

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 1, AEx em ib IIC (NEC)
- Class I, Zone 1, Ex em ib IIC (CEC)
- Class II, Division 2, Groups F, G (NEC)
- Class II, Division 2, Groups E, F, G (CEC)
- IP66
- UL844
- UL924/CSA22.2 No. 141-02
- UL60079/CSA22.2 E60079
- UL1203/CSA22.2 E6124-1-1-02

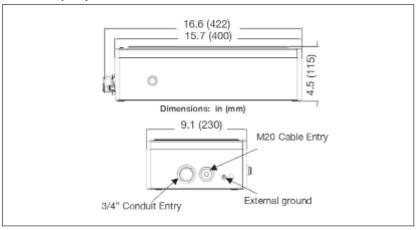


Ordering Information:

· ·		
Catalog Number	Ex Lite Z	Ex Lite ZE
Material Number	12191001005	12191130005
Description	AC/DC Exit Sign	with Battery
Light Source	LED	LED
Life of LED	50K hours	50K hours
Rated Voltage, VAC	120V-277V	120V-277V
Frequency, Hz	50/60	50/60
Rated Voltage, DC	110V-250V	110V-250V
Power Consumption	6VA	6VA
Battery	N/A	NiCad
Allowable Temperature Range	-4°F to 122°F (-20°C to 50°C)	41°F to 95°F (5°C to 35°C)*
Mounting	Wall	Wall
Cable Entry	Ex-e	Ex-e
Conduit Entry	3/4"	3/4"
Protection	IP66	IP66

^{*}Due to battery chemistry, the charging capacity will be limited at temperatures below 5°C and above 35°C.

Dimensions In Inches (mm):



Eaton's Crouse-Hinds CCH UX Series LED Exit Sign combines the strength and durability of die cast aluminum with architecturally-pleasing aesthetics. The CCH UX Series is illuminated by LEDs, providing the customer with a long-life, low maintenance, dependable exit sign for use in conditions where reliability is crucial.

Designed for the most severe environments, the CCH UX Series will provide maximum performance against rain, moisture, cold, corrosion, and dust in applications such as manufacturing plants, refineries, petrochemical and chemical plants, waste and sewage treatment facilities, food processing, and other industrial facilities.

Applications:

- In locations deemed hazardous due to the presence of flammable vapors or gases
- In areas where the presence of gases or vapors may become present during an abnormal, unusual, or accidental conditions
- · Outdoor and wet applications
- Where required by the National Electrical Code®, Life Safety Code®, or other applicable codes

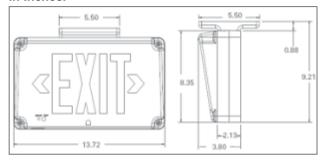
Features and Benefits:

- Wet location, outdoor rated for use in the most demanding environments
- Optional hazardous location rating available
- Dual voltage 120V/277V reduces wiring errors
- · Heavy-duty nickel cadmium battery for long life
- · 24-hour charge and recharge recovery time increases safety
- Heavy-duty injection molded polycarbonate lens protects against impact and corrosion
- Brown-out protection protects battery and reduces labor
- Heavy-duty aluminum die cast housing protects against impact and chemical resistance
- LEDs provide long life, even illumination, and energy savings
- Wide operating temperature range (-45°C to 45°C)
- Self-diagnostic testing reduces costs by eliminating scheduled equipment verification tests
- Heavy duty nickel cadmium battery for long life meets 90 minute requirements for battery operated emergency system

Certifications and Compliances:

- NEMA 4X, UL50
- UL924 wet location
- IP65, IP66
- Available with NEC hazardous location rating
 UL844 Class I, Division 2, Groups A, B, C, D

Dimensions In Inches:



Mounting: wall mount, ceiling mount, end mount Conduit Entry: top, bottom, or either side of the unit



Benefits of LED Technology:

- Provides safe and reliable exit marking both indoors and outdoors during power failure or interruption of power to normal lighting system
- Long life (>50K hours) for years of maintenance-free operation
- Energy-efficient for lower cost of operation
- Low temperature operation with no loss of illumination
- Rugged and durable light source for the harshest of environments

Temperature Performance Data:

CCH UX Series Exit Sign:

• -45°C (-49°F) to 45°C (113°F)

CCH UX-HAZ Hazardous Location Exit Sign:

• T6 rating at 45°C (113°F)

Electrical Ratings:

 Power Supply 120V/277V dual voltage

LED Exits - Red	 LED Exits - Green
Input Power	Input Power
120V = 2.7W	120V = 2.3W
277V = 3.2W	277V = 3.0W
land to Comment	In a control of the c
Input Current:	Input Current:
(Max.)	(Max.)
120V = .07A	120V = .08A
277V = .04A	277V = .03A

Ordering Information:

Ordering information.					
Catalog Number	Housing Finish	Letter Color			
CCH UX70RSDHAZ	Silver Housing	Red LED			
CCH UX60RHAZ	Silver Housing	Red LED			
CCH UX70GSDHAZ	Silver Housing	Green LED			
CCH UX60GHAZ	Silver Housing	Green LED			
CCH UX70RSD	Silver Housing	Red LED			
CCH UX70RWHSD	White Housing	Red LED			
CCH UX70RBKSD	Black Housing	Red LED			
CCH UX60R	Silver Housing	Red LED			
CCH UX60RWH	White Housing	Red LED			
CCH UX60RBK	Black Housing	Red LED			
CCH UX70GSD	Silver Housing	Green LED			
CCH UX70GWHSD	White Housing	Green LED			
CCH UX70GBKSD	Black Housing	Green LED			
CCH UX60G	Silver Housing	Green LED			
CCH UX60GWH	White Housing	Green LED			
CCH UX60GBK	Black Housing	Green LED			

The robust Pro Series LED family allows for replacement of existing HID, floodlights, and incandescent industrial fixtures, and provides an energy-efficient, proven light source for use in applications where reliability is crucial.

Applications:

- Robust Pro Series LED family allows for replacement of existing HID, floodlights, and incandescent industrial fixtures
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Areas that are difficult to relamp or that cause production to be stopped during the lamp maintenance process
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations and hose-down environments
- Warehouses, outdoor areas, production facilities, etc.



PRO SERIES LED BENEFITS

- Customized heat sinks
 Eaton's Crouse-Hinds' heat sinks are specifically engineered to remove heat from the LEDs and driver to ensure longer life, better lumen output, and accurate color temperature.
- B Retrofittable mounting modules
 Compact modular fixtures attach to existing Eaton's
 Crouse-Hinds installed mounting modules, reducing
 installation costs.
- C Long life LEDs eliminate maintenance cost
 Eaton's Crouse-Hinds' luminaires remove the high
 maintenance costs associated with traditional
 lamps.

Product Selector Chart:







Series	Champ® Pro PVM Series	Champ® Pro PFM Series	Vaporgard™ Pro P2L Series
Certifications	UL1598; UL1598A; cUL; Type 4X; IP66; CE	UL1598; UL1598A; cUL; NEMA 4X; IP66	UL1598; UL1598A; cUL; NEMA 4X; IP66
Applications / Uses	General high bay/low bay illumination	Outdoor/indoor flood illumination	Low mounting heights, such as stairways, walkways, and doorways Targeted illumination
Equivalent Output	Replaces 70W to 400W HID	Replaces 70W to 400W HID	Replaces up to 200W incandescent
Mounting Styles	Wall; Ceiling; Pendant; Flexible Pendant; Cone Pendant; Stanchion	Yoke Mounted	Wall; Ceiling; Pendant; Stanchion
Photometrics and Test Reports Available	IES Photometric Files LM-80 Lumen Maintenance Report LM-79 Test Report	IES Photometric Files LM-80 Lumen Maintenance Report LM-79 Test Report	IES Photometric Files LM-80 Lumen Maintenance Report LM-79 Test Report

Champ® Pro PVM Series Luminaires

Ideal for general high bay/low bay illumination

The Champ® Pro PVM Family

Champ® Pro PVM Series Luminaires are designed to provide full-spectrum, crisp, white light with custom IES Type I, III, and V distribution. Five versions of the PVM Series are available, providing ideal solutions for a wide range of applications.

Model	Nominal† Lumens (Type V)	Wattage	Equivalent HID Luminaire	Typical Energy Savings / Lifetime
PVM3L	3,515	41	70W-100W	Up to 77%
PVM5L	5,288	67	100W-150W	Up to 67%
PVM7L	7,404	94	150W-175W	Up to 67%
PVM9L	9,515	114	250W-400W	Up to 74%
PVM11L	10,935	118	400W	Up to 74%
†Tolerance +/-	10%.			

Applications:

- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Areas requiring frequent on-and-off of lights
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Manufacturing plants; heavy industrial, chemical, petrochemical, or pharmaceutical facilities; food and beverage facilities; mining; platforms; loading docks; tunnels; indoor/outdoor spot lighting; outdoor wall and stanchion mounted general area lighting

Champ Pro PVM LED Benefits:

- Instant illumination and restrike
- · Better visibility with crisp, white light
- Cold temperature operation / no warmup required
- Redundancy in drivers with multiple series circuits connected to each driver to avoid complete loss of illumination
- Easy installation compact modular fixture attaches onto existing Champ[®] mounting module
- Energy-efficient technology up to 77% energy savings over HID fixtures
- Provides up to 60,000 hours rated life and up to 170,000 hours of economic life - eliminates need for frequent lamp replacement
- Contains no mercury or other hazardous substances
- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break - greatly reduces the risk of premature failure
- Operating ambient -40°C to 55°C
- · Dark sky compliant
- 5 year fixture warranty††

††Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

Certifications and Compliances:

 DesignLights Consortium® for select models* (pending)

NEC and CEC

Wet Locations, Type 4X, IP66

UL Standards

UL1598 Luminaires, UL1598A Marine
 CSA Standard

 cUL Listed to CSA Standard CSA C22.2 No. 250

IEC Standard

CE

*Cool white 120-277 VAC 3L-11L models. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

LED System:

- High intensity discrete power emitters
- Cool white (5000K, 70 CRI) and warm white (3000K, 80 CRI)
- Custom optics designed to go over each discrete LED

Standard Materials:

- Lamp housing and adapter die cast aluminum with Corro-free™ epoxy powder coat
- Lens heat- and impact-resistant glass
- Gaskets silicone
- External hardware stainless steel
- Factory-sealed, no external seals required



Custom Optics:

Three optical options to maximize light distribution and intensity:

TYPE I

Ideal for:

UL/cUL Listed

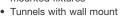
Type 4X

IP66

- · Mining conveyor belts
- · Aisleways and hallways
- · Catwalks and walkways
- Ramps and loading docks
- Tunnels with overhead mounts

TYPE III Ideal for:

 Narrow crosswalks or passages with wall mounted fixtures



 Wall or stanchion mount requiring 180° forward throw beam patterns

TYPE V

Ideal for:

- Pendant, ceiling or stanchion mount overhead building mounts
- Processing mills, industrial plants, large buildings, warehouses, etc.



Drivers:

Option	3L - 11L
/UNV1	120-277 VAC, 50 / 60 Hz
/UNV34**	347-480 VAC, 50 / 60 Hz
/VDC‡	108-250 VDC, 50 / 60 Hz

**No separate external transformer required to step down voltage.

‡Separate driver for DC applications.

Electrical Ratings:

	PVM3L	PVM5L	PVM7L	PVM9L	PVM11L
Voltage Range, VAC	120-277	120-277	120-277	120-277	120-277
Frequency	50 / 60 Hz				
Input Power (Watts)	41	67	94	114	118
Input Amps at 120-277 VAC	0.34-0.17	0.57-0.29	0.80-0.42	0.96-0.49	0.96-0.49
Voltage Range, VDC	108-250	108-250	108-250	108-250	108-250
Power Factor	>0.90	>0.90	>0.90	>0.90	>0.90
Nominal Lumens† (Type V)	3,515	5,288	7,404	9,515	10,935



Ideal for general high bay/low bay illumination

Design Features:

- (A) Installation and replacement made simple this contractor-friendly, modular design is ideal for both retrofit and new construction applications. These luminaires are installed in the same manner and use the same mounting modules as existing Champ® Series luminaires. The compact modular design of the PVML allows for easy component replacement and future upgrade.
- ® High efficiency and lumen output custom high efficiency LED drivers are designed to provide reliable operation in even the harshest environments. Various AC and DC input voltage options are available to suit virtually any drive requirement.
- © Safe, reliable heat transfer die cast aluminum housing provides safe and effective heat transfer from the LED assembly to the outside environment, ensuring low LED junction temperature, reliability, and sustained lumen performance. The vertical fin design facilitates air flow and dust shedding. The impact-resistant lens is sealed from the outside environment and provides ingress protection against water and dust.
- ① Custom optics custom optics designed for discrete LED power emitters.
- © Ease of wiring and installation available with lever lock connectors and standard three-pole terminal block for ease of wiring and installation.





Custom Optics:

Custom optics designed for discrete LED power emitters:

- Type V standard
- Type I and Type III optional

Colored LED Options:

- Available in red, blue, green and amber
- Reduction in light pollution for night space observation and sky glow due to isolating blue wavelength in red and amber colors
- Wildlife friendly
- Improves visibility for telescopes in observatories during night sky space exploration



Type I



Type III



Type V

Crouse-Hinds

by F:T.N

Options:

‡‡Not available for IEC applications.

Description Wire guard with captive mounting hardware Trunnion mount with redundant pin locking mechanism (ceiling mount required) Quick Clip for quick installation Diffused lens for glare reduction‡‡ Teflon coating on lens for additional shatter protection‡‡ Polycarbonate lens available in applications where glass is prohibited	S812 K1 S890 S891 S896
Polycarbonate lens available in applications where glass is prohibited	

Accessories (Ordered Separately):

1 10 0 0 0 0 1 1 1 0 1 0 1 0 1 0 1 0 1	
Description	Cat. # (Ordered Separately)
Photocell, 120V, 50 / 60 Hz	D2S20
Photocell, 208-277V	D2S208 277
Occupancy sensor, 1/2" entry, 120/277 VAC***	
Occupancy sensor, 3/4" entry, 120/277 VAC***	
Occupancy sensor, 1" entry, 129/277 VAC***	COS3/UNV1
***For 347-480 VAC, replace /UNV1 with /UNV34.	

UL/cUL Listed

Type 4X

IP66

Champ® Pro PVM Series Luminaires

Ideal for general high bay/low bay illumination

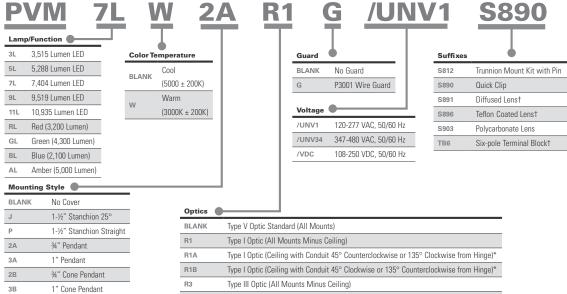
R3A1

R3A2

R3B1

R3B2





¾" Flexible Pendant

¾" Ceiling

1" Ceiling

¾" Wall

Dimensions:

Pendant Ceiling Wall Trunnion Cone Pendant [273.5] [295.1] [295.1] [295.1] [297.4] [11.62] [295.1] [297.4] [11.62] [295.1] [295.1] [297.4] [2

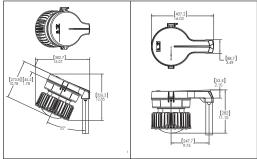
Type III Optic (Ceiling with Conduit 45° Counterclockwise from Top Hat Hinge)**

Type III Optic (Ceiling with Conduit 135° Counterclockwise from Top Hat Hinge)**

Type III Optic (Ceiling with Conduit 135° Clockwise from Top Hat Hinge)**

Type III Optic (Ceiling with Conduit 45° Clockwise from Top Hat Hinge)**

Stanchion Angled Stanchion Straight



Weights:

weights:			
Net Luminaire Weight:	21.8 lbs.	8.07 kg.	
Mounting Module add (lb.)			
Pendant	1.25	0.57	
Cone Pendant	4.00	1.81	
Flexible Pendant	1.50	0.68	
Ceiling	2.75	1.25	
Wall	4.50	2.04	
Angle Stanchion	3.50	1.59	
Straight Stanchion	4.50	2 04	

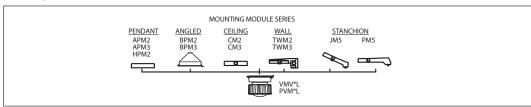
³TW 1" Wall

*For new construction, order R1A only.

*"For new construction, order R3A1 only.
†Not available for IEC applications.

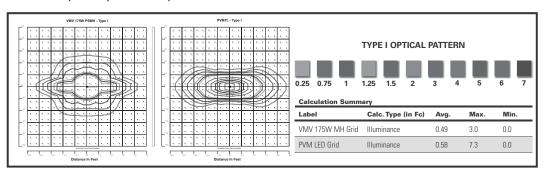
Ideal for general high bay/low bay illumination

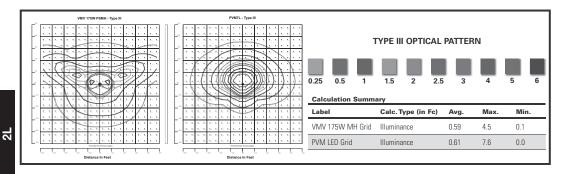
Family Tree:

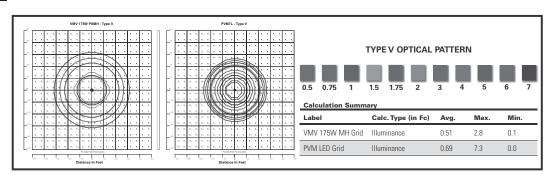


Photometric Data:

Photometric Layout Comparison - Champ® PVM7L LED Versus 175W Metal Halide:







(Nominal†)	3L	5L	7L	9L	11L
Type I	3,115	4,687	6,562	8,437	9,692
Type III	3,271	4,921	6,890	8,859	10,177
Type V	3,515	5,288	7,404	9,519	10,935

Champ® Pro PFM Series Luminaires

UL/cUL Listed NEMA 4X IP66

Perfect for outdoor/indoor flood illumination

The Champ[®] Pro PFM Family

Champ® Pro PFM Series Floodlights are designed to provide full-spectrum, crisp, white light. Five versions of the Champ PFM LED are available, providing ideal solutions for a wide range of applications.

Champ [®] Pro PFM Model	Equivalent MH HID Lamp	Energy Savings
PFM5L PFM7L PFM9L	100W-150W 150W-175W 175W-250W	Up to
PFM11L PFM13L	250W-400W 400W	62%!

Certifications and Compliances:

- UL1598
- UL1598A
- cUL
- NEMA 4X; IP66
- DesignLights Consortium® approved for select models (refer to Ordering Information for details)

Drivers:

Model	5L - 13L
Standard	90-305 VAC, 50 / 60 Hz; 108-250 VDC
Option 1	347 VAC Model
Option 2	480 VAC Model

Standard Materials:

- Housing copper-free aluminum with Corro-free™ epoxy powder coat
- Lens shatter-resistant glass
- Gaskets silicone
- External hardware stainless steel
- Factory-sealed, no external seals required

LED System:

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions



Electrical Ratings:

	PFM5L	PFM7L	PFM9L	PFM11L	PFM13L		
Voltage Dange VAC		100-277V 50-60 Hz					
Voltage Range, VAC		347 / 480V 60 Hz					
Voltage Range, VDC	108-250	108-250	108-250	108-250	108-250		
Input Power (Nom.)	64	89	121	149	179		
Input Amps (Max.)	0.550	0.800	1.083	1.608	1.608		
Power Factor	>0.85	>0.85	>0.85	>0.85	>0.85		

Ordering Information:

	Color Temperature	5L Series	7L Series	9L Series	11L Series	13L Series
	Cool Color Temperature	PFM5LCY/UNV1 76	PFM7LCY/UNV1 76	PFM9LCY/UNV1 76	PFM11LCY/UNV1 76	PFM13LCY/UNV1 76
		PFM5LCY/120 76*	PFM7LCY/120 76*	PFM9LCY/120 76*	PFM11LCY/120 76*	PFM13LCY/120 76*
_	Warm Color Temperature	PFM5LWY/UNV1 76	PFM7LWY/UNV1 76	PFM9LWY/UNV1 76	PFM11LWY/UNV1 76	PFM13LWY/UNV1 76

For 347 VAC option, replace /UNV1 with /347. For 480 VAC option, replace /UNV1 with /480.

To order fixture without optics, remove '76' from the end of the catalog number.

*5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions. DesignLights Consortium approved models. Cool white only.

Options:

Description	Suffix
Fused (only applies to UNV1 model, not available for 347V or 480V; NOT marine or cUL Listed)	S658
Two conduit/cable glands of like thread installed	S886

Accessories:

Description Catalog No. Sold Separately

Bolt-on visor (sold separately)

Bolt-on wire guard (sold separately)

Floodlight slipfitter (sold separately)

SFA6

Slipfitter wall mount adapter (sold separately)

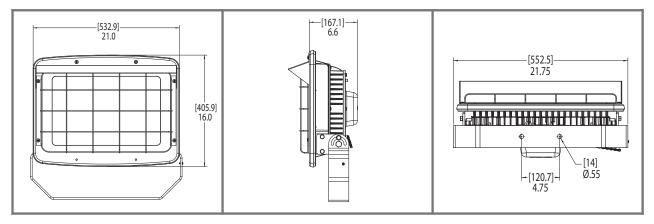
SWB6

2L Champ® Pro PFM Series Luminaires

UL/cUL Listed NEMA 4X IP66

Perfect for outdoor/indoor flood illumination

Dimensions:



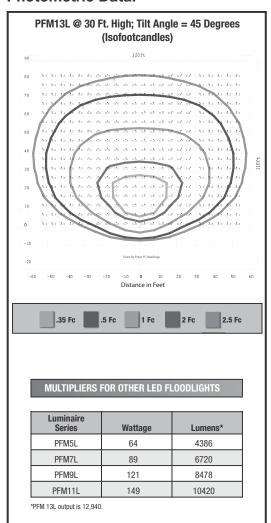
Weights:

Model	Lbs.
5L	39.11
7L	39.16
9L	39.73
11L	40.35
13L	40.35

Ambient Temperature:

Champ [®] Pro PFM Model	Max. Temp. °C
PFM5L	55
PFM7L	55
PFM9L	55
PFM11L	40
FIVITIL	55
PFM13L	40
FFIVITOL	55

Photometric Data:



The Champ® Pro PFM LED **Family**

PFM LED Series Floodlights are designed to provide full-spectrum, crisp, white light. Two versions of the Champ Pro PFM LED are available, providing ideal solutions for a wide range of applications.

PFM Model	Equivalent HID Lamp	Energy Savings
PFM25L	750W MH	
PFM50L	1500W MH / 1000W HPS	Up to 65%!

Applications:

- High lumen output for installation in high mounting heights
- · Locations requiring continuous and consistent light levels
- · Areas requiring frequent on-and-off of lights
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist; indoors or outdoors
- NEMA 4X, marine, wet locations, and hose-down environments
- Indoor and outdoor area lighting in plants, buildings, and parking areas
- · Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; platforms; loading docks; outdoor mounted general area lighting
- · Ball mills, stackers and reclaimers, concentrators, smelters, mine roadways, outdoor processing areas, truck service shops, shovels, and drag lines

Certifications and Compliances:

- UL1598
- UL1598A
- cUL
- NEMA 4X; IP66
- DesignLights Consortium® approved for select models (refer to Ordering Information for details)
- UL approved up to 40°C ambient



PFM50L Model

Standard Materials:

- Housing copper-free aluminum with Corro-free™ epoxy powder coat
- Lens heat- and impact-resistant glass
- Yoke mount (standard) copper-free aluminum with Corro-free™ epoxy powder coat
- Gaskets silicone
- External hardware stainless steel
- · Factory-sealed, no external seals required

LED System:

- High brightness light emitting diodes (LEDs)
- Color temperature: 5000K (CRI 67)
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- LM-79, LM-80 reports available upon request



PFM25L Model

Options:

Description	Suffix
Two conduit/cable glands of	
ike thread installed	S886
Diffused glass lens	S891
Polycarbonate lens	S903

Accessories:

7 10 0 0 0 0 1 1 0 0 1	
Description	Cat. # (Sold Separately)
Bolt-on visor	
(sold separately)	DSV1
Bolt-on wire guard	
(sold separately)	P61
Floodlight slipfitter	
(sold separately)	SFA6*
Slipfitter wall mount adapter	
(sold separately)	SWB6*
*Available with PFM25L model only.	00
Available with Frivizor Houer Offiy.	

Drivers:

25L, 50L		
90-305 VAC, 50 / 60 Hz; 127-250 VDC		
277-480 VAC Model		

Electrical Ratings:

	PFM25L	PFM50L	
Voltage Barge VAC	120-277V 5	50 / 60 Hz	
Voltage Range, VAC	277-480V 5	50 / 60 Hz	
Voltage Range, VDC	127-2	127-250V	
Input Power (Nom.)	263	531	
Input Amps (Max.)	2.6	5.2	
Power Factor	>0.90		

Ordering Information:

25L Series†* 50L Series

PFM25LCY/UNV1 76

PFM50LCY/UNV1 76

NOTE: Available in cool color temperature only. For 277-480 VAC option, replace /UNV1 with /UNV34.

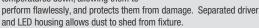
†DesignLights Consortium® approved model at 120-277V.

*PFM25L is DLC approved with a 5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard terms and conditions.

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2L Champ® Pro PFM Series 25L and 50L LED Floodlights

The heat sink was designed to perform in high ambient temperatures up to +40°C and as low as -25°C. The thick walls of the castings make for a tough, rugged housing that keeps the internal driver and LED temperatures down, allowing them to



High efficiency and lumen output

High efficiency drivers and LEDs provide 100 LPW for reliable low cost operation in industrial environments. Components were chosen to give industry-leading light output from an LED flood. Replaceable drivers and LEDs for ease of maintenance and "no lights out" feature.

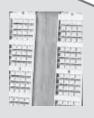






Versatile design

Can be used for outdoor or indoor applications, and for a wide range of mounting heights depending on model and light level requirement. Optics were specifically designed to give the familiar and industry-accepted NEMA 7x6 beam light pattern.



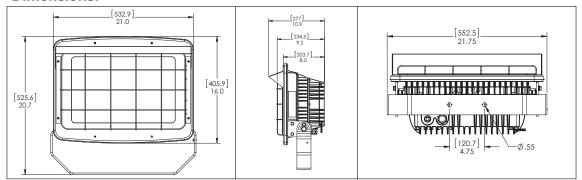
Optional equipment (sold separately)

Optional visor offered to control light spill.

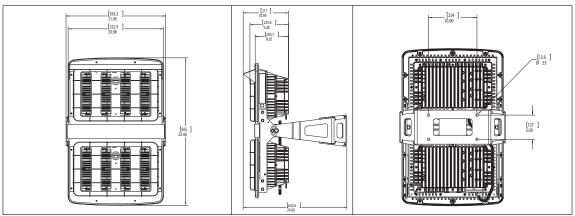
Optional wire guard offered to protect lens from damage.

Other options available - consult part numbering guide.

Dimensions:

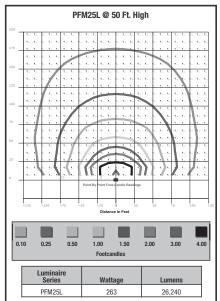


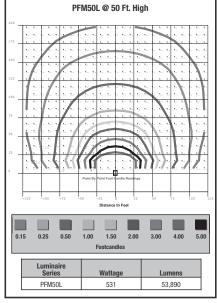
PFM25L Model



PFM50L Model

Photometric Data:





Weights:	
PFM Model	Lbs.
PFM25L	52.00
PFM50L	106.00

2L

The Vaporgard™ **Pro P2L Family**

P2LC/UNV1 - Cool White Color Temperature

The P2LC/UNV1 Luminaire provides uniform crisp, white light and is suitable for lower mounting heights, confined spaces, tunnels, or utility rooms. Using four high power, high brightness LED arrays, this fixture can deliver similar light levels to 150 watt incandescent.



The P2LW/UNV1 Luminaire provides similar benefits as the cool white version, but with a color rendering more consistent with a warm incandescent or HPS lamp source. Perfect for situations where Vaporgard Pro will be installed next to a warmer color light source.

DC Power Supply - Available for Applications Requiring **DC** Power

For applications with DC power requirements such as solar or back-up battery. The DC power supply is suitable for 12VDC through 24VDC.

Certifications and Compliances:

- UL1598
- UL1598A
- cUI
- NEMA 4X; IP66
- DesignLights Consortium® approved for select models (refer to Ordering Information for details)

Standard Materials:

- Body and mounting modules copper-free aluminum with Corro-free™ epoxy powder coat
- Lens bezel aluminum with anodized finish
- · Lens heat- and impact-resistant glass
- Gaskets silicone
- External hardware stainless steel
- Factory-sealed, no external seals required

LED Array:

- (4) High brightness LED arrays
- Cool white (5600K), CRI 65
- Warm white (3000K), CRI 82
- 70% lumen maintenance (L70) at 50K hours

LED Driver:

- Constant current regulated power supply
- 90VAC 264VAC, 277VAC, 50 / 60 Hz
- · Internal fusing
- Active power factor correction, >0.9
- Low harmonic distortion, <20%
- Low inrush current, <20 amps
- EMC compliant to 47CFR, Part 2, Part 15
- 12VDC / 24VDC option available

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Electrical Ratings:

	Series			
	P2LC/UNV1*	P2LW/UNV1	P2LC/DC1	P2LW/DC1
Voltage	90-264VAC, 277VAC	90-264VAC, 277VAC	12-24VDC	12-24VDC
Input Power (Watts)	22	22	22	22
Input Current	0.23 / 0.10	0.23 / 0.10	2.1 / 1.0	2.1 / 1.0
Power Factor	>0.9	>0.9	N/A	N/A
THD (I) (%)	<20%	<20%	N/A	N/A
Maintained Lumens	1633	1400	1633	1400
Efficacy, LPW	64	56	64	56
Color Temperature	5600K	3000K	5600K	3000K

^{*5} year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions. DesignLights Consortium approved models.

Ordering Information:

	Cool White		Warm White	
Mounting Style	AC Drive**	DC Drive	AC Drive	DC Drive
1/2" Pendant	P2LCA1/UNV1**	P2LCA1/DC1	P2LWA1/UNV1	P2LWA1/DC1
³/₄" Pendant	P2LCA2/UNV1**	P2LCA2/DC1	P2LWA2/UNV1	P2LWA2/DC1
1" Pendant	P2LCA3/UNV1**	P2LCA3/DC1	P2LWA3/UNV1	P2LWA3/DC1
1/2" Wall with Junction Box	P2LCHBF1/UNV1**	P2LCHBF1/DC1	P2LWHBF1/UNV1	P2LWHBF1/DC1
³/₄" Wall with Junction Box	P2LCHBF2/UNV1**	P2LCHBF2/DC1	P2LWHBF2/UNV1	P2LWHBF2/DC1
1/2" Ceiling	P2LCHF1/UNV1**	P2LCHF1/DC1	P2LWHF1/UNV1	P2LWHF1/DC1
³/₄" Ceiling	P2LCHF2/UNV1**	P2LCHF2/DC1	P2LWHF2/UNV1	P2LWHF2/DC1
¹/₂" VXT Wall	P2LCHT1/UNV1**	P2LCHT1/DC1	P2LWHT1/UNV1	P2LWHT1/DC1
³/₄" VXT Wall	P2LCHT2/UNV1**	P2LCHT2/DC1	P2LWHT2/UNV1	P2LWHT2/DC1
¹/₂" VXW Wall	P2LCHW1/UNV1**	P2LCHW1/DC1	P2LWHW1/UNV1	P2LWHW1/DC1
³/₄" VXW Wall	P2LCHW2/UNV1**	P2LCHW2/DC1	P2LWHW2/UNV1	P2LWHW2/DC1
11/4" Stanchion	P2LCHJ4/UNV1**	P2LCHJ4/DC1	P2LWHJ4/UNV1	P2LWHJ4/DC1
Adapter Only*	P2LCHR/UNV1**	P2LCHR/DC1	P2LWHR/UNV1	P2LWHR/DC1

DesignLights Consortium approved models. Cool white only.

^{*}For use when wall mount or ceiling mount box is already installed.
**5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

Vaporgard™ Pro P2L Series Luminaires

UL/cUL Listed NEMA 4X IP66

For targeted illumination in low mounting height areas

Options:	
Description	Suffix
Frosted lens reduces glare in applications where the user may	
have direct visual contact with the light source	S891
Teflon coating on lens provides additional shatter protection	
for applications in food and beverage facilities	S896
High temperature option allows operation up to 55°C ambient	
temperature (AC unit only)	S902

Accessories (Order Separately):

Description Cat. No. Sold Separately

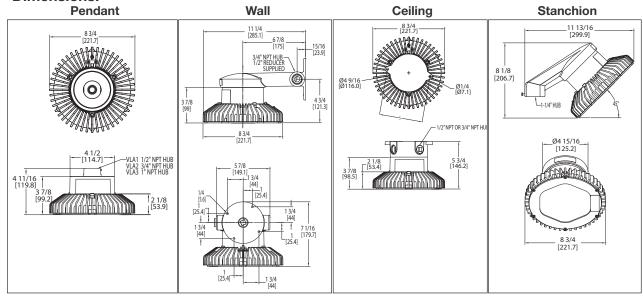
Magnet bracket only (available for ceiling mount

VXF20 only) P2L Magbrk

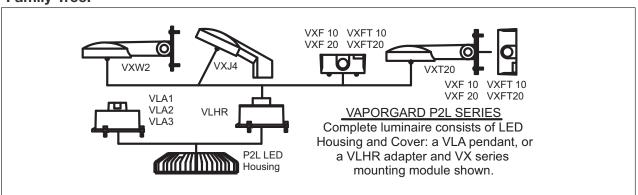
Magnet bracket kit

(includes ceiling mount) P2L Magbrk K1

Dimensions:







Weights:

Luminaire & Mounting Module Weight	Lbs.
Pendant Mount	5.7
Ceiling Mount	6.8
Wall Mount	7.9
Stanchion Mount	6.5

Ambient Temperature:

Vaporgard™ Pro P2L Model	Max. Temp. °C
P2L/UNV1	40
P2L/UNV1 S902	55
P2L/DC1	40

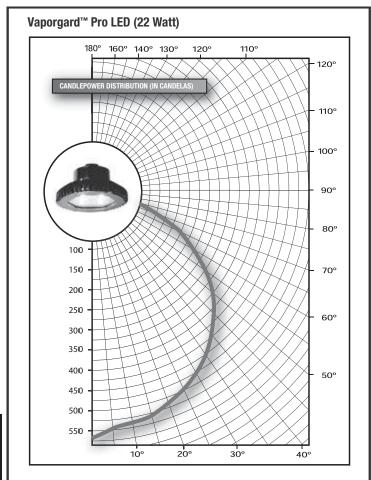
21

Vaporgard™ Pro P2L Series Luminaires

UL/cUL Listed NEMA 4X IP66

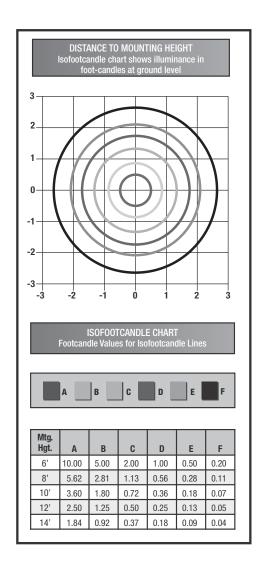
For targeted illumination in low mounting height areas

Photometric Data:



ZONAL		

ZONE	LUMENS	% LUMEN
0-30	468	28.65
0-40	772	47.30
0-60	1374	84.15
0-90	1633	100.00
40-90	860	52.70
60-90	259	15.85
90-180	0	0.00
0-180	1633	100.00



Industrial High Bay LED Series Luminaires

Applications:

- Locations requiring continuous and consistent light levels
- Areas requiring frequent on-and-off of lights
- Areas that are difficult to relamp or that cause production to be stopped during the lamp maintenance process
- Ordinary clean, light industrial production facilities, packaging facilities, and warehouses
- · Indoor and dry locations only

Features:

- Up to 69% energy savings over 400W metal halide fixtures
- 60,000 hours (rated life) of maintenancefree operation for labor and material savings over the life of the fixture
- Two to three year payback by retrofitting four or six lamp T5HO or 400W metal halide high bay fixtures
- Operating temperature of -30°C to +40°C ambient
- Uniform wide distribution for optimum lighting levels for 18-25 foot mounting heights
- Occupancy sensing control available for enhanced energy savings and lifetime of LED fixture
- Hook and cord attachment for ³/₄" pendant hub
- 347-480 VAC driver option

Certifications and Compliances:

- Meets UL1598 and cUL construction requirements*
- DesignLights Consortium®**

*Not UL Listed.

**For /UNV1 model. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

Electrical Ratings:

- 100 VAC to 277 VAC 50 / 60 Hz
- 347 VAC to 480 VAC 50 / 60 Hz

Voltage	P.F.	THD	Amps
120	0.995	8.16%	1.178
277	0.950	12.3%	0.524

Ordering Information:

Cat. #	Description	
IHB13L2A/UNV1	Industrial High Bay,	
	13,940 Lumens, 3/4"	
	Pendant Mount,	
	100-277 VAC	

Note: For 347-480 VAC, replace /UNV1 with /UNV34.

Options:

Description	Suffix
Hook and cord attachment	
for 3/4" pendant hub	HC

Accessories:

Description	Cat. # (Sold Separately)
Occupancy sensor kit, 3/4" entry (sold separately) Hook and cord kit	IOS2/UNV1‡
(sold separately) Driver replacement kit	IHB PS/
(sold separately)	

Specifications:

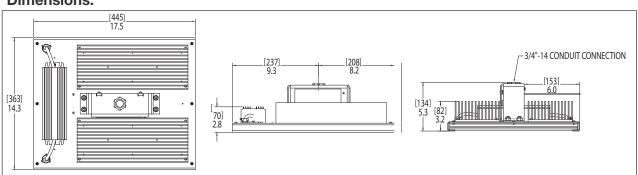
Key Specifications

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Lumens (Typical)†	13,940
Wattage	141W (at 120 VAC); 138W (at 277 VAC)
Lumens Per Watt (LPW)	99
Color Temperature	5,000K
CRI	>70
Voltage Range (VAC)	100-277V, 347-480V; 50 / 60 Hz
Power Factor	0.95 at 277 VAC
Total Harmonic Distortion	12.3% at 277 VAC
Operating Temperature	-30°C to +40°C
Lifetime	60,000 hours at +40°C
Warranty	5 years**

Tolerance +/- 109

**For /UNV1 model. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions.

Dimensions:



IP66

For mining and heavy industrial applications

Endure™ **LED Wall Pack Family**

The IP66, stainless steel Endure™ LED Luminaire features the patented, modular LED LightBAR™ technology. The Endure LED Luminaire is available with one or two LightBAR configurations in Type II or Type V distributions.

Model	Equivalent HID Output	Energy Savings
FM1 B01	50W HPS	59%
FM1 B02	70W HPS/MH	43%

Applications:

• Ideal for a variety of non-hazardous applications such as mining, food processing, marine, wastewater treatment, heavy manufacturing, and general wash-down areas

Certifications and **Compliances:**

- UL1598
- cUL
- IP66

LED System:

- Choice of Type II or Type V high efficiency AccuLED™ optics designed to shape light distribution for maximizing efficiency and application spacing
- 50,000+ hour life with >70% lumen maintenance
- 4000K (± 275) CCT and nominal 70 CRI
- 98 lumens per watt; 0.9 power factor

Standard Materials:

- Housing 16 gauge stainless steel (SS201), painted powder coat white; optional 316 stainless steel housing available for extreme corrosion resistance
- Door die-formed stainless steel with 0.156" thick clear tempered glass lens; 316 stainless steel (optional)
- · Gasket silicone, around perimeter of glass
- Screws stainless steel

Standard Finish:

· All external components are finished in a polyester white powder coat paint, electrostatically applied

Design Features:

- White light provides superior color rendering and ambient clarity. Optics are precisely designed to shape the distribution, maximizing efficiency and application spacing.
- ® Energy efficiency and longer life 50,000 hours rated life and up to 59% more energyefficient than the 70W high pressure sodium equivalent.
- © Reduction in light pollution controlled distribution of light means far less light loss.
- D IP66 ingress protection rating and -30°C to 50°C ambient temperature rating ensures trouble-free operation in a variety of harsh and complex applications.
- Junction box polycarbonate, IP66 rated, four screws to access cover, double row terminal box to expedite installation.

Electrical Ratings:

Di	strib	ution

No. of LightBARs	Power (Watts)	Current @ 120V(A)*	Current @ 277V(A)*	Lumens (Type II)	Lumens (Type V)
		21 LED L	ightBAR		
1	27	0.23	0.13	2304	2382
2	51	0.43	0.20	4571	4726

*Proprietary circuit module designed to withstand 10kV of transient voltage surge

Ordering Information:

PRODU FAMII		LAMP TYPE	ELECTRICAL	DISTRIBUTION	LENS	FINISH	ACCESSORIES	OPTIONS
FM1	B01	LED	E1	T2	CTG156	WH	FM1-EBP-WH	316SS

Product Family Finish Endure Luminaire WH White Powder Coated Paint BK Black Powder Coated Paint No. of LightBARs **R7** Bronze Powder Coated Paint B01 (1) 21 LED LightBAR Accessories (2) 21 LED LightBARs **B02** FM1-EBP-WH EM Battery Pack Unit (Coming Soon) Lamp Type Same dimensions as non-EM unit Solid State Light Emitting Diodes but with full stainless steel door. Replace 'WH' in the catalog number with Electrical 'BK' or 'BZ' for black or bronze finish. E1 Electronic Driver (1) (120-277V) Includes test switch and indicator light. Distribution **Options** T2 Type II 316SS Type 316 Stainless Steel Housing and Door

5MQ

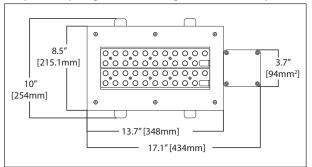
Type V

CTG156 Clear Tempered Glass, 0.156" Thick PC125 Clear Polycarbonate, 0.125" Thick AC125 Clear Acrylic, 0.125" Thick

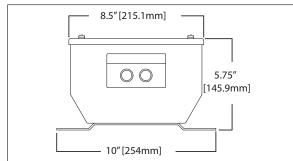
For mining and heavy industrial applications

Dimensions:

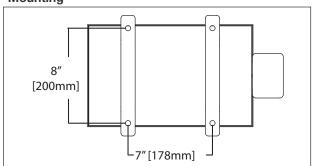
Top View (2 LightBAR Configuration Shown)



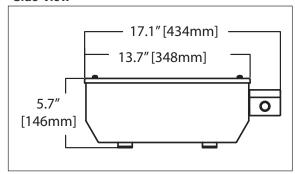
End View



Mounting

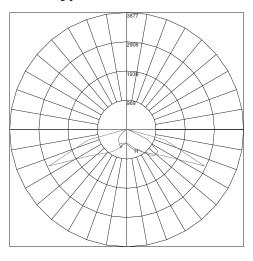


Side View

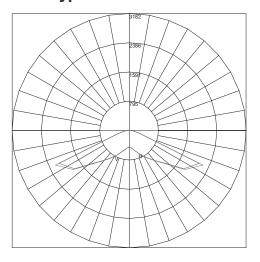


Photometric Data:

Type II Distribution



Type V Distribution



Lumen Multiplier (2 Bar)

Temperature	Multiplier	Lumens	
10°C	1.09	5151	
15°C	1.03	4868	
25°C	1.00	4726	
40°C	0.96	4537	
50°C	0.92	4348	

Crouse-Hinds by **F**:**T·N**

High Intensity Discharge (H.I.D.) Lighting Hazardous and Non-hazardous

Description	Page No.
·	
Application/Selection	see page 960
Champ [®] Series – Integrally Ballasted Luminaires	
Accessories	see pages 1022-1023
Ballast Data (USA)	see page 874
Ballast Data (Canada)	see page 874
VMV Series 50 – 175W H.I.D	see page 962
Catalog Listings	see page 963
Temperature Data, Dimensions, Weights	see page 968
Photometric Data	see pages 970-971
LMV Series 50 – 150W H.I.D	see page 972
Catalog Listings	see page 973
Temperature Data, Dimensions, Weights	see page 977
Photometric Data	see page 979
DMV Series 50 – 250W H.I.D.	see page 980
Catalog Listings	see page 981
Temperature Data, Dimensions, Weights	see page 986
Photometric Data	see page 988
VMV High Wattage Series 200 – 400W H.I.D.	see page 989
Catalog Listings	see page 990
Temperature Data, Dimensions, Weights	see page 995
Photometric Data	see page 997
VMVIG Series Induction Lighting	see pages 998-1004
DMVIG Series Induction Lighting	see pages 998-1004
N2MV Non-metallic H.I.D.	see page 1005
Catalog Listings	see page 1006
Temperature Data, Dimensions, Weights	see page 1011
Photometric Data	see page 1013
nVMV Ex-Protected Luminaire for IEC and ATEX Applications	see page 1014
Catalog Listings	see page 1015
Temperature Data, Dimensions, Weights	see page 1016
Photometric Data	see pages 1018-1021
Photocells	
i notocolio	see page 1024

3L H.I.D. (High Intensity Discharge) Luminaires

Enclosed & Gasketed Application and Selection

Applications:

Luminaires included in this section are enclosed and gasketed, designed for use with H.I.D. lamps as follows:

- In locations where protection is required from wet, dirty and corrosive atmospheres
- Where long life lamps provide desirable maintenance cost savings and return on investment through use of fewer luminaires, circuits and ancillary apparatus
- Where relamping and maintenance difficulties require long life lamps

Considerations for Selection:

Environmental:

- What are the hazardous areas classifications (NEC/CEC) of the locations in which the luminaires will be installed?
- Must luminaires be suitable for use in marine, hosedown, corrosive applications?

Lighting levels required:

 What wattage luminaire(s) will provide the desired light level?

Quick Selector Chart*

Series	Watts HPS, MH & Pulse Start MH Lamps	Hazardous Area & Other Enviromental Suitabilities NEC, CEC, IEC	Ballast Voltages
Champ VMV	50, 70, 100, 150, 175 Mogul Base		Standard Voltage Ballasts
Champ VMV High Wattage	200, 250, 400 Mogul Base	NEC & CEC CI. I, Div. 2 Groups A, B, C, D CI. II, Groups E, F, G CI. III Simultaneous Presence Restricted Breathing (Suffix – S826) CI. I, Div. 2 & Zone 2 AEx nR, Ex nR IIC Marine Outdoor & Wet Locations	(60 Hz) NEC (UL) Multi-tap: 120, 208, 240 & 277 Volt 60 Hz. Dual-tap: 120 & 277 Volt 60 Hz (50W HPS) 120 Volt 60 Hz 480 Volt 60 Hz CEC/CSA (cUL) Tri-tap: 120, 277 & 347 Volt 60 Hz Dual-tap: 120 & 277 Volt 60 Hz (50W HPS) 120 Volt 60 Hz
Champ LMV Low Profile	50, 70, 100, 150 Medium Base	Type 3, 3R, 4, 4X IP56 to IP66	Optional Voltage Ballasts (50 or 60 Hz)
Champ DMV Expanded Class II Suitability	50, 70, 100, 150, 175, 250 Mogul Base	IEC Certified for IEC Zone 2	CEC/CSA (cUL) 208 Volt 60 Hz CWI – Isolated 240 Volt 60 Hz CWI – Isolated
Champ N2MV Non-metallic	50, 70, 100, 150, 175 Mogul Base	(Suffix - S826TB) Ex nR IIC IP56 to IP66	480 Volt 60 Hz CWI – Isolated 600 Volt 60 Hz CWI – Isolated 600 Volt 60 Hz CWI – Isolated EXPORT 220 Volt 50 Hz 230 Volt 50 Hz 240 Volt 50 Hz
Champ nVMV Ex-Protected Luminaire for IEC and ATEX Applications	70 Medium 100, 150 Medium & Mogul 250, 400 Mogul	Zone 2 according to IEC Ex nR II TGc Zone 21 and 22 according to IEC Ex t IIIC T°C Db IP66 IP66 ATEX	220 Volt 50 Hz 230 Volt 50 Hz 240 Volt 50 Hz 220 Volt 60 Hz 230 Volt 60 Hz 240 Volt 60 Hz

 $[\]ensuremath{^{\star}}\mbox{See}$ specific sections for lamp type and wattage suitability.

VMV, LMV, DMV, VMV High Wattage, N2MV & nVMV Series

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G, Cl. III Simultaneous Presence Marine & Wet Locations 3, 3R, 4, 4X; IP56 to IP66

The *Champ* family is an extremely versatile industrial lighting system. Six different series of *Champ* Luminaires embrace a broad range of wattages, lamp sources, compliances, optics, and accessories. Each series is covered in detail on the following pages. General information to help in the proper selection of series and luminaires is shown below.

Applications:

Heavy duty *Champ* lighting luminaires are used:

- In manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore, dockside, and harbor installations, and other heavy industrial applications
- In areas where ignitible concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- · Where combustible dusts are present
- In marine applications where water spray and corrosive atmospheres are considerations
- In elevated ambient temperatures often found in industrial applications
- In installations where moisture, dirt, dust, vibration, corrosion, and rough usage are problems
- Wherever the damaging effects of water, wind, snow, sleet, hot sun, or any combination of these elements are found

Features:

- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion.
- Seven mounting arrangements in each series, to suit any lighting layout – pendant, flexible pendant, ceiling, wall bracket, angle stanchion, straight stanchion, and quadmount.
- Wide range of light sources and wattages to meet specifiers' needs: 50, 70, 100, 150, 200, 250 and 400 watt high pressure sodium (HPS); 70, 100 175, 250, and 400 watt metal halide (MH and Pulse Start MH).
- Hinged ballast housings for ease of installation and maintenance; all mounting modules fit all ballast housings.
- Wide choice of photometric distributions. Globes available for lamps up through 400 watt HPS, and 250 watt MH. Glass refractors available for all VMV and DMV units; reflector/lens for 200–400 watt VMV units.
- All luminaires are designed to perform in a 40°C ambient temperature. Selected luminaires are suitable for ambient temperatures up to 65°C.







- Superior gasketing seals between the mounting module, housing, and optical assembly for optimum performance in wet and corrosive environments.
- Hubs with an integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Low ambient capability to -40°C.
- Dome and 30° angle reflectors made of bright white Krydon® fiberglassreinforced polyester material provide superior reflectivity, with twist-on feature requiring no tools or additional hardware. Will not chip, peel, dent, rust, or corrode.
- Grounding wire for safety.
- Ballasts are high power factor (min P.F. 90%) and available in a variety of voltages to meet local area requirements.







Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G, Cl. III & Simultaneous Presence (HPS 50W, 70W)

Marine & Wet Locations
3, 3R, 4, 4X; IP56 to IP66

Suffix

Applications:

VMV series Champ luminaires are used:

- In manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore, dockside, and harbor installations, and other heavy industrial applications
- In areas in which ignitible concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- Where combustible dusts are present
- In marine applications where water spray and corrosive atmospheres are considerations
- In elevated ambient temperatures often found in industrial applications
- In installations where moisture, dirt, dust, vibration, corrosion, and rough usage are problems
- Wherever the damaging effects of water, wind, snow, sleet, hot sun, or any combination of these elements are found

Features:

- Compact, lightweight design is ideal for medium and low mounting heights
- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion
- Seven mounting arrangements to suit any lighting layout – pendant, flexible pendant, ceiling, wall bracket, angle stanchion, straight stanchion, and quad-mount
- Wide range of light sources and wattages to meet specifiers' needs: 50, 70, 100, and 150 watt high pressure sodium (HPS); 70, 100, 175 watt metal halide (MH and Pulse Start MH)
- Hinged ballast housing for ease of installation and maintenance
- Wide choice of photometric distributions. Glass globes, refractors and compact refractors available for all wattage luminaires; plastic refractors (for nonhazardous applications only) for 50–100 watt luminaires
- All luminaires are designed to perform in a 40°C ambient temperature. Selected luminaires are suitable for ambient temperatures up to 65°C
- Superior gasketing seals between the mounting module, housing, and optical assembly for optimum performance in wet and corrosive environments
- Hubs with an integral conduit stop and bushing to help prevent damage to field wiring during installation
- Low ambient capability to (-40°C)
- Dome and 30° angle reflectors made of bright white Krydon® material provide superior reflectivity, with twist-on feature requiring no tools or additional hardware. Will not chip, peel, dent, rust, or corrode
- · Grounding wire for safety
- High power factor ballasts (Min P.F. 90%) and available in a variety of voltages to meet local area requirements
- Mogul base porcelain lamp socket



Certifications and Compliances:

• NEC & CEC:

Class I, Division 2, Groups A, B, C, D HPS 50W, 70W – Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II) Class I, Zone 2

• IEC:

Zone 2 Ex nR IIC

- UL Standards: 844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations
- CSA Standards: C22.2 No. 137
- IEC Standards: 60079-15

Standard Materials:

- Ballast housings and mountings copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware stainless steel
- Reflectors (dome and angle) Krydon fiberglass-reinforced polyester material
- Globes heat and impact resistant internally fluted glass
- Refractors glass (50–175 watts); plastic 50–100 watts), for non-hazardous applications
- Guards: Globe copper-free aluminum Refractor – stainless steel

Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Krydon material high reflectance white
- Stainless steel natural

Electrical Ratings:

- 120, 208, 240, 277, 347, 480, 600, Multitap (120, 208, 240 and 277)
- 50 to 150W HPS; 70 to 175W MH

Options:

Description

The following special options are available from the factory by adding suffix to luminaire Cat. No.:

Factory Sealed Champs	S865
Class I, Division 2 & Zone 2	
Provides T3 code without	
conduit or cable seals	
Restricted breathing/Non-sparking	
Restricted Breathing Construction	S826
Class I, Division 2 & Zone 2	
Suitabilty	
Cooler Operating Temperatures	
(T-Numbers)	0000
Certified for IEĆ Zone 2	58261B
Furnished with terminal block,	
crimp terminals and dedicated	
voltage ballasts (no MT, DT or TT)	
Fused – to protect ballast and capacitors against abnormal line	
	CCEO+
conditions(Not available with /MT Ballast)	.5058"
(Not for use in Canada)	
(Not suitable for marine applications)	
Quick-Clip - Holds weight of	
housing when closed. No need to	
support luminaire while screwing the	
housing to the cover	5890
Ballast-Gard™ starter cut-out	0000
switch – prevents starter pulsing	
when lamp is cycling or inoperative;	
prolongs ballast and ignitor life.	
Available for use with	
50-150W LX HPS only	BG
Instant restrike - enables a hot HPS	
lamp to immediately restrike after a	
momentary loss arc due to voltage	
fluctuation or power outage. It has no	
effect on the warm-up period of cold	
lamps.	
50–150W LX HPS only	IR_
50–100W LX HPS only	TIR
Quartz auxiliary lighting – comes to	
full brightness immediately and	
remains lit until the HID lamp attains	
60–70% of full illumination. For non-	
hazardous locations only. Must use	
R2, R3 and	OT7
R5 refractors	WIZ
housing only. Used with R2, R3 and	
R5 refractors	DM
Stainless steel insert top bet with	LIVI

lote: BG and IR options cannot be used together. IR and QTZ options cannot be used together.

savingsFA

Stainless steel insert - top hat with

G24 only. T-Numbers not affected

lamps installed for additional labor

stainless steel threaded insert to

attach ballast housing TEFLON coating on globe for

increased shatter protection .

Factory assembled with H.I.D.

Accessories:

• See pages 1022-1023 for complete listing.

TEFLON is a registered trademark of E.I. duPont Co.

*When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.

Crouse-Hinds

.\$808

VMV Series 50–150W High Pressure Sodium

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) CI. II, Groups E, F, G, CI. III & Simultaneous Presence (50W, 70W)
Marine & Wet Locations 3, 3R, 4, 4X; IP66

BASIC CATALOG NUMBER

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see VMV Series - Ordering By Components page.

Mounting Style	Hub Size	Lamp Watts	With G24 Globe and P21 Guard	With G241 Type I Compact Refractor *	With R5 Glass Refractor †
Pendant Mount	3/ ₄ 1	50 70 100 150	VMVS2A050GP VMVS3A050GP VMVS2A070GP VMVS3A070GP VMVS3A100GP VMVS3A100GP VMVS2A150GP VMVS2A150GP	VMVS2A050G241 VMVS3A050G241 VMVS2A070G241 VMVS3A070G241 VMVS3A100G241 VMVS3A100G241 VMVS2A150G241 VMVS3A150G241	VMVS2A050R5 VMVS3A050R5 VMVS2A070R5 VMVS3A070R5 VMVS2A100R5 VMVS2A150R5 VMVS2A150R5 VMVS3A150R5
Flexible Pendant Mount	3/ ₄ 3/ ₄ 3/ ₄ 3/ ₄	50 70 100 150	VMVS2HA050GP VMVS2HA070GP VMVS2HA100GP VMVS2HA150GP	VMVS2HA050G241 VMVS2HA070G241 VMVS2HA100G241 VMVS2HA150G241	VMVS2HA050R5 VMVS2HA070R5 VMVS2HA100R5 VMVS2HA150R5
Ceiling Mount Thru-Feed	3/4 1 3/4 1 3/4 1 3/4	50 70 100 150	VMVS2C050GP VMVS3C050GP VMVS2C070GP VMVS3C070GP VMVS2C100GP VMVS3C150GP VMVS3C150GP VMVS3C150GP	VMVS2C050G241 VMVS3C050G241 VMVS2C070G241 VMVS3C070G241 VMVS3C100G241 VMVS3C150G241 VMVS2C150G241 VMVS3C150G241	VMVS2C050R5 VMVS3C050R5 VMVS2C070R5 VMVS3C070R5 VMVS2C100R5 VMVS3C100R5 VMVS2C150R5 VMVS2C150R5 VMVS3C150R5
Wall Mount Thru-Feed	3/ ₄ 1	50 70 100 150	VMVS2TW050GP VMVS3TW050GP VMVS2TW070GP VMVS3TW070GP VMVS3TW100GP VMVS3TW150GP VMVS2TW150GP VMVS3TW150GP	VMVS2TW050G241 VMVS3TW050G241 VMVS2TW070G241 VMVS3TW100G241 VMVS2TW100G241 VMVS3TW150G241 VMVS3TW150G241 VMVS3TW150G241	VMVS2TW050R5 VMVS3TW050R5 VMVS2TW070R5 VMVS3TW070R5 VMVS2TW100R5 VMVS3TW100R5 VMVS2TW150R5 VMVS3TW150R5
Quad-Mount Pendant, Adjustable, Thru-Feed, 25° Angle, 12½° Angle	3/4 3/4 3/4 3/4	50 70 100 150	VMVS25Q050GP VMVS25Q070GP VMVS25Q100GP VMVS25Q150GP	VMVS25Q050G241 VMVS25Q070G241 VMVS25Q100G241 VMVS25Q150G241	VMVS25Q050R5 VMVS25Q070R5 VMVS25Q100R5 VMVS25Q150R5
Stanchion Mount 25° Angle	1½ 1½ 1½ 1½ 1½	50 70 100 150	VMVSJ050GP VMVSJ070GP VMVSJ100GP VMVSJ150GP	VMVSJ050G241 VMVSJ070G241 VMVSJ100G241 VMVSJ150G241	VMVSJ050R5 VMVSJ070R5 VMVSJ100R5 VMVSJ150R5
			VMVSP050GP VMVSP070GP VMVSP100GP VMVSP150GP '241" at end of catalog number to 241" at end of catalog number to		VMVSP050R5 VMVSP070R5 VMVSP100R5 VMVSP150R5

Add voltage suffix to end of catalog number

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVS2A050R2. For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVS2A050R3.

Ontional Voltage Ballasts - 50 or 60Hz

Optional Voltage Ballasts - 50 or 60Hz										
	CEC		EXPORT							
Voltage	208V CWI	240V CWI	480V CWI	600V CWI	220V 60Hz	220V 50Hz	240V 50Hz			
Suffix	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/240 50			

 ¹⁵⁰W HPS Luminaires: For 55V lamps - add suffix LX; for 100V lamps - add suffix CE. 50W HPS luminaire is dual tap only.
 Options - Add the required option suffixes, see page 962, in alpha-numeric order.

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Marine & Wet Locations 3, 3R, 4, 4X; IP66

To complete the catalog #, include information in note 1 below. For guards and other optics see VMV Series - Ordering By Components page.

					BASIC CATALOG NUMBER	
	Mounting Style	Hub Size	Lamp Watts	With G24 Globe and P21 Guard	With G245 Type V Compact Refractor *	With R5 Glass Refractor †
	Pendant Mount	3/ ₄ 1 3/ ₄ 1	150 175	VMVM2A150GP S828 VMVM3A150GP S828 VMVM2A175GP S828 VMVM3A175GP S828	VMVM2A150G245 S828 VMVM3A150G245 S828 VMVM2A175G245 S828 VMVM3A175G245 S828	VMVM2A150R5 S828 VMVM3A150R5 S828 VMVM2A175R5 S828 VMVM3A175R5 S828
	Flexible Pendant Mount	3/ ₄ 3/ ₄	150 175	VMVM2HA150GP S828 VMVM2HA175GP S828	VMVM2HA150G245 S828 VMVM2HA175G245 S828	VMVM2HA150R5 S828 VMVM2HA175R5 S828
	Ceiling Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1	150 175	VMVM2C150GP S828 VMVM3C150GP S828 VMVM2C175GP S828 VMVM3C175GP S828	VMVM2C150G245 S828 VMVM3C150G245 S828 VMVM2C175G245 S828 VMVM3C175G245 S828	VMVM2C150R5 S828 VMVM3C150R5 S828 VMVM2C175R5 S828 VMVM3C175R5 S828
	Wall Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1	150 175	VMVM2TW150GP S828 VMVM3TW150GP S828 VMVM2TW175GP S828 VMVM3TW175GP S828	VMVM2TW150G245 S828 VMVM3TW150G245 S828 VMVM2TW175G245 S828 VMVM3TW175G245 S828	VMVM2TW150R5 S828 VMVM3TW150R5 S828 VMVM2TW175R5 S828 VMVM3TW175R5 S828
	Quad-Mount Pendant, Adjustable Thru- Feed, 25° Angle, 121/2° Angle	3/ ₄ 3/ ₄	150 175	VMVM25Q150GP S828 VMVM25Q175GP S828	VMVM25Q150G245 S828 VMVM25Q175G245 S828	VMVM25Q150R5 S828 VMVM25Q175R5 S828
	Stanchion Mount 25° Angle	1½ 1½	150 175	VMVMJ150GP S828 VMVMJ175GP S828	VMVMJ150G245 S828 VMVMJ175G245 S828	VMVMJ150R5 S828 VMVMJ175R5 S828
	Stanchion Mount Straight	1½ 1½	150 175	VMVMP150GP S828 VMVMP175GP S828	VMVMP150G245 S828 VMVMP175G245 S828	VMVMP150R5 S828 VMVMP175R5 S828
5				"245" at end of catalog number to " e "245" at end of catalog number to	241". Ex. VMVM2A150G241-S828 "243". Ex. VMVM2A150G243-S828	

1 Add voltage suffix to end of catalog number

		Standard Voltage Ballasts – 60Hz NEC/UL							
Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120				
		Optional Vo	oltage Ballasts - 50 or 60Hz EXPORT						
Voltage Suffix	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50					

Crouse-Hinds

† For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVM2A150R2-S828. For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVM2A150R3-S828.

Marine & Wet Locations

3, 3R, 4, 4X; IP66

BASIC CATALOG NUMBER

VMV Series 70-175W **Metal Halide**

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see VMV Series - Ordering By Components page.

				BASIC CATALOG NUMBER			
Mounting Style	Hub Size	Lamp Watts	With G24 Globe and P21 Guard	With G241 Type I Compact Refractor *	With R5 Glass Refractor †		
Pendant Mount	3/ ₄ 1 3/ ₄	70 100	VMVM2A070GP VMVM3A070GP VMVM2A100GP	VMVM2A070G241 VMVM3A070G241 VMVM2A100G241	VMVM2A070R5 VMVM3A070R5 VMVM2A100R5		
T T	1 ³ / ₄ 1	175	VMVM3A100GP VMVM2A175GP VMVM3A175GP	VMVM3A100G241 VMVM2A175G241 VMVM3A175G241	VMVM3A100R5 VMVM2A175R5 VMVM3A175R5		
Flexible Pendant Mount	3/ ₄ 3/ ₄ 3/ ₄	70 100 175	VMVM2HA070GP VMVM2HA100GP VMVM2HA175GP	VMVM2HA070G241 VMVM2HA100G241 VMVM2HA175G241	VMVM2HA070R5 VMVM2HA100R5 VMVM2HA175R5		
Ceiling Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1 3/ ₄ 1 3/ ₄	70 100 175	VMVM2C070GP VMVM3C070GP VMVM2C100GP VMVM3C100GP VMVM2C175GP	VMVM2C070G241 VMVM3C070G241 VMVM2C100G241 VMVM3C100G241 VMVM2C175G241	VMVM2C070R5 VMVM3C070R5 VMVM2C100R5 VMVM3C100R5 VMVM2C175R5		
Wall Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1 3/ ₄ 1 1 3/ ₄ 1	70 100 175	VMVM3C175GP VMVM2TW070GP VMVM3TW070GP VMVM2TW100GP VMVM3TW175GP VMVM3TW175GP	VMVM3C175G241 VMVM2TW070G241 VMVM3TW070G241 VMVM2TW100G241 VMVM3TW100G241 VMVM3TW175G241 VMVM3TW175G241	VMVM3C175R5 VMVM2TW070R5 VMVM3TW070R5 VMVM2TW100R5 VMVM3TW175R5 VMVM3TW175R5		
Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 121/2° Angle	3/4 3/4 3/ ₄	70 100 175	VMVM25Q070GP VMVM25Q100GP VMVM25Q175GP	VMVM25Q070G241 VMVM25Q100G241 VMVM25Q175G241	VMVM25Q070R5 VMVM25Q100R5 VMVM25Q175R5		
Stanchion Mount 25° Angle	1½ 1½ 1½	70 100 175	VMVMJ070GP VMVMJ100GP VMVMJ175GP	VMVMJ070G241 VMVMJ100G241 VMVMJ175G241	VMVMJ070R5 VMVMJ100R5 VMVMJ175R5		
	1½ 1½ 1½ 1½	70 100 175	VMVMP070GP VMVMP100GP VMVMP175GP	VMVMP070G241 VMVMP100G241 VMVMP175G241	VMVMP070R5 VMVMP100R5 VMVMP175R5		



For G243 Type III Compact Refractor, change "241" at end of catalog number to "243". Ex. VMVM2A070G243 For G245 Type V Compact Refractor, change "241" at end of catalog number to "245". Ex. VMVM2A070G245

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts - 60Hz CEC/CSA (cUL) NEC/UL Voltage Suffix Multi Tap /MT 120V /120 480V /480 Tri Tap /TT 120V /120 Optional Voltage Ballasts - 50 or 60Hz CEC/CSA (cUL) - CWI Isolated Ballasts **EXPORT** 480V CWI /240CWI 600V CWI 220V 60Hz /220 220V 50Hz /220 50 230V 50Hz /230 50 240V 50Hz /240 50

[†] For R2 Glass Refractor, change "R5" at end of catalog number to "R2". Ex. VMVM2A070R2. For R3 Glass Refractor, change "R5" at end of catalog number to "R3". Ex. VMVM2A070R3.

^{2. 70}W ballast not available in 480V.

^{3.} Options - Add the required option suffixes, see page 962. in alpha-numeric order.

3L VMV Series – Ordering by Components

VMV luminaires are available in components.

A complete luminaire consists of:

- I. Champ Cover (Mounting Module)
- II. VMV Ballast Housing Include voltage and required option(s)
- III. Optical & Guard components Globe, Reflector, Refractor, Guard

I. Champ Cover (Mounting Module):

Туре	Conduit	Cat. #
Pendant	3/4"	APM2
	1"	APM3
Flexible Pendant	3/4"	HPM2
Ceiling	3/4"	CM2
	1"	СМЗ
Wall	3/4"	TWM2
	1"	TWM3
Stanchion – 25 Degree Angle	11/2"	JM5
Stanchion – Straight	11/2"	PM5
Quad-Mount	3/4"	QM25

II. Ballast Housings:

Complete catalog number must have the voltage suffix (MT shown) and any options suffixes.

Lamp Type	Lamp Watts	Cat. # For Globe and Compact Refractor	Cat. # For Large Refractor
High	50	VMVS050/DT	VMVS050/MT RM
Pressure	70 100	VMVS070/MT VMVS100/MT	VMVS070/MT RM VMVS100/MT RM
Sodium	150	VMVS150/MT LX	VMVS150/MT LX RM
Metal	70	VMVM070/MT	VMVM070/TT RM
Halide	100 175	VMVM100/MT VMVM175/MT	VMVM100/MT RM VMVM175/MT RM

III. Globe, Reflectors, Refractors, Guards:

mi diobo, monoctoro, monactoro, dadraci	
Туре	Cat. #
Globe	G24
Globe - Teflon Coated	G24 S808
Globe Guard	P21
Reflector – Dome	RD70
Reflector – Angle	RA70
Compact Refractor Type 1	G241
Compact Refractor Type 3	G243
Compact Refractor Type 5	G245
Compact Refractor Guard	P241
Large Refractor Type 2	R2
Large Refractor Type 3	R3
Large Refractor Type 5	R5
Large Refractor Guard	P23
Large Plastic Refractor Type 2	PR2
Large Plastic Refractor Type 3	PR3
Large Plastic Refractor Type 5	PR5

*Plastic refractors are for non-hazardous areas only (50–100W Max.)

	L	_amp	Rated Ambient °C		Class I,	Division 2		Class II, Division 1		Class I,	Zone 2	Sup Suita	pply Wire ble For °C
Cat. #	Wattage	е Туре		Globe (G24, G241, G245)	Globe (G24) w/ Reflector (RA70 or RD70)	Refractor (R2, R3, or R5)	Group	Globe (G24) w/ or w/o Reflector (RA70 or RD70)	Simultaneous Presence Class I, Div. 2 Class II, Div. 2	Restricted Breathing Suffix S826 w/ Globe (G24, G241, G245)	Factory Sealed Suffix S865 AEx nA nR II	Globe (G24, G241, G245)	Refractor (R2, R3, or R5)
VMVM70 VMVM70 VMVM70 VMVM100 VMVM100 S849 VMVM150 VMVM150 VMVM175	70 70 70 100 100 100 150 175	MH MH MH MH MH MH	40 55 65 40 40 55 40	T3A T3 T3 T2D T2 T2D T2D T2A T2A	T3A T3 T3 T2D T2 T2D T2A T2A	T3A T3 T3 T2D T2 T2D T2B T2B				T5 T4 T4 T4 T4 T4 T3 T3	T3 T3 T3 T3 T3 T3 T3	90 90 90 90 75 90 90	90 90 90 90 75 90 90
VMVS50 VMVS50 VMVS70 VMVS70 VMVS70 VMVS100 VMVS150 VMVS150 VMVS150	50 50 50 70 70 100 100 150	HPS HPS HPS HPS HPS HPS HPS HPS	40 55 65 40 55 40 55 40 55	T3A T3A T3 T3 T3 T2C T2B T2A T2	T3A T3A T3 T3 T3 T2C T2B T2A T2	T3B T3A T3 T3B T3 T2D T2C T2B T2A	EFG EFG EFG EFG EFG EFG	T4A T4 T4 T3C T3C T3A	T3A T3 T2D T2C T2B T2A	T5 T5 T5 T4 T4 T4 T3 T3	T3 T3 T3 T3 T3 T3 T3 T3	75 75 75 75 90 90 105 90	65 75 75 65 90 75 90 85 105
VMVIG055 VMVIG055	55 55	Induction Induction	40 55	T2C T2C	T2C T2C	_				T6 T5	_	65 65	_

The Class I, Division 2 T-codes apply to luminaires without the restricted breathing (S826) or factory sealed (S865) options. These luminaires are listed to UL 844. UL844 specifies how the temperatures are measured.

The Class I, Zone 2 T-codes are for luminaires that are additionally listed to UL 60079-15 that specify a different method for measuring temperatures. Since NEC® 501.1 states that equipment "...for use in Class I, Zone 0, 1, or 2 locations shall be permitted in Class I, Division 2 locations..." then these luminaires are suitable for Class I, Division 2 but with cooler temperature ratings. They also have the advantage of meeting the more rigorous mechanical tests of UL 844.

175

11/2

100

150

VMVS 21³/₄ 22³/₄ 22³/₄ 22³/₄ VMVM 21 21¹/₂ 23³/₄

Lbs. Type Lbs. Type Add for mounting modules: Pendant 11/4 Quad-Mount $3^{1}/_{2}$ Flexible Pendant 11/2 Angle Stanchion $3^{1/2}$ Ceiling 23/4 Straight Stanchion 41/2 Wall 41/2 Add for reflectors:

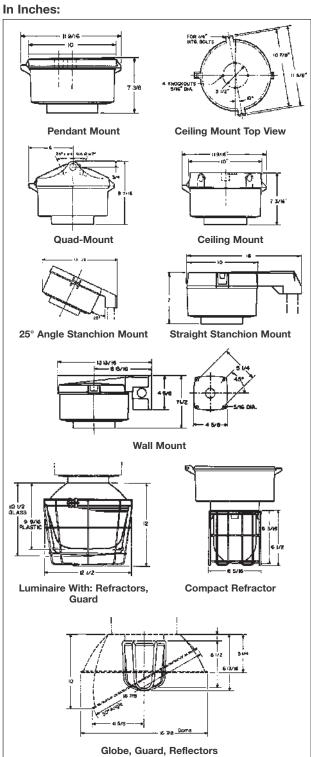
30° Angle

Deduct: 1/2" lb. for fixture without P21 Guard

Dome

11/2

Dimensions In Inches:



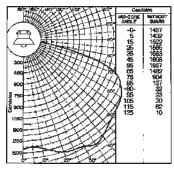
3L VMV Series

Champ® H.I.D. Luminaires

Lamp: 100W/E – 23½ high pressure sodium (HPS) Total bare lamp lumens: 9500

NOTE: All data provided is for high pressure sodium luminaires with 100W/E–23-1/2 clear lamps. Use conversion factors (multipliers) shown below for other clear lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any Champ Series luminaire.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

Lamp	version
Watts	Factor
50	0.42
70	0.67
150	1.68
	Watts 50 70

Luminaire spacing ratio: 1.85

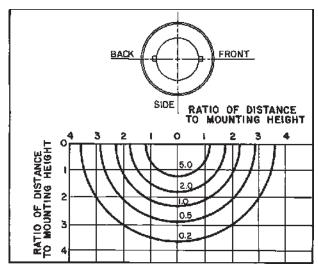
Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

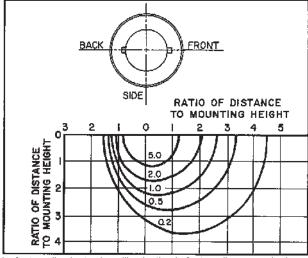
% Reflectar	Room	Room Cavity Ratio						
Eff. Ceil.	Wall	1	2	3	4	5		
	50	.823	.707	.610	.529	.464		
80	30	.784	.646	.538	.451	.384		
	10	.749	.594	.482	.391	.324		
	50	.804	.690	.597	.517	.452		
70	30	.767	.633	.530	.445	.377		
	10	.734	.587	.477	.388	.321		
	50	.765	.658	.571	.494	.434		
50	30	.735	.611	.513	.431	.368		
	10	.709	.569	.466	.381	.318		
	50	.731	.629	.546	.473	.416		
30	30	.708	.591	.497	.419	.357		
	10	.685	.555	.456	.375	.312		
	50	.701	.603	.524	.454	.399		
10	30	.681	.569	.482	.406	.348		
	10	.662	.541	.446	.367	.307		
0	0 0		.521	.427	.348	.288		
0/ D-flt-	D	Daam Cavity Datie						

0	0	.644	.521	.427	.348	.288
% Reflectar	nce	Room	Cavity F	Ratio		
Eff. Ceil.	Wall	6	7	8	9	10
80	50	.412	.366	.326	.296	.258
	30	.334	.290	.253	.224	.187
	10	.278	.239	.201	.175	.142
70	50	.403	.359	.320	.291	.252
	30	.329	.285	.250	.221	.187
	10	.274	.235	.200	.174	.142
50	50	.386	.344	.307	.279	.244
	30	.320	.277	.244	.216	.182
	10	.271	.231	.197	.172	.140
30	50	.371	.329	.296	.269	.235
	30	.312	.272	.237	.210	.178
	10	.267	.227	.195	.170	.137
10	50	.357	.319	.285	.260	.227
	30	.304	.266	.232	.206	.173
	10	.263	.224	.192	.167	.135
0	0	.245	.207	.176	.152	.120

Isofootcandle Chart: Luminaire with Globe and Dome Reflector



Isofootcandle Chart: Luminaire with Globe and 30° Angle Reflector

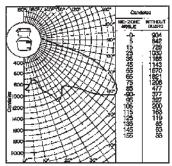


Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

Height (Ft.)	Factor	Height (Ft.)	Factor
6	2.78	14	0.51
8	1.56	16	0.39
12	0.70		

Lamp: 100W/E0 - 231/2 high pressure sodium (HPS)

Luminaire with I.E.S. Type V Glass Refractor



NOTE: Photometric data was developed using a 100 watt clear high pressure sodium lamp (9500 lumens). For other clear lamps, use the following conversion factors (multipliers):

Luminaire Series	Lamp Watts	version Factor
	50	0.42
VMVS	70	0.67
	150	1.68

Luminaire spacing ratio: 2.0

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectan		Room	Cavity F	Ratio		
Eff. Ceil.	Wall	1	2	3	4	5
	50	.848	.709	.597	.508	.437
80	30	.796	.631	.509	.414	.343
	10	.750	.566	.439	.341	.271
	50	.818	.682	.576	.489	.419
70	30	.770	.611	.493	.402	.331
	10	.726	.552	.428	.334	.264
	50	.759	.632	.533	.451	.389
50	30	.720	.574	.464	.377	.312
	10	.685	.521	.407	.318	.253
	50	.706	.586	.493	.417	.359
30	30	.675	.538	.435	.354	.291
	10	.645	.495	.386	.302	.240
	50	.658	.544	.457	.385	.331
10	30	.632	.504	.408	.331	.274
	10	.608	.469	.366	.286	.227
0	0	.581	.441	.340	.260	.203
% Reflectan			Cavity F			
% Reflectan Eff. Ceil.	ce Wall	Room 6	Cavity F	Ratio 8	9	10
	Wall 50	.384	.337	.299	.272	.238
	Wall 50 30	.384 .292	.337 .249	.299 .214	.272 .189	.238 .159
Eff. Ceil.	Wall 50	.384	.337	.299	.272	.238
Eff. Ceil.	Wall 50 30 10 50	.384 .292 .226 .369	.337 .249 .189	.299 .214 .154	.272 .189 .132	.238 .159 .103
Eff. Ceil.	Wall 50 30 10 50 30	.384 .292 .226 .369 .283	.337 .249 .189 .325 .240	.299 .214 .154 .288 .203	.272 .189 .132 .262 .183	.238 .159 .103 .229 .156
Eff. Ceil.	Wall 50 30 10 50	.384 .292 .226 .369	.337 .249 .189	.299 .214 .154	.272 .189 .132	.238 .159 .103
80 70	Wall 50 30 10 50 30 10 50 30 10	.384 .292 .226 .369 .283 .218	7 .337 .249 .189 .325 .240 .182	.299 .214 .154 .288 .203 .150	.272 .189 .132 .262 .183 .130	.238 .159 .103 .229 .156 .105
Eff. Ceil.	Wall 50 30 10 50 30 10 50 30 10 50 30	.384 .292 .226 .369 .283 .218 .341 .266	7 .337 .249 .189 .325 .240 .182 .301 .225	.299 .214 .154 .288 .203 .150 .266 .195	.272 .189 .132 .262 .183 .130 .243 .173	.238 .159 .103 .229 .156 .105
80 70	Wall 50 30 10 50 30 10 50 30 10	.384 .292 .226 .369 .283 .218	7 .337 .249 .189 .325 .240 .182	.299 .214 .154 .288 .203 .150	.272 .189 .132 .262 .183 .130	.238 .159 .103 .229 .156 .105
80 70	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.384 .292 .226 .369 .283 .218 .341 .266 .209	337 .249 .189 .325 .240 .182 .301 .225 .173	8 .299 .214 .154 .288 .203 .150 .266 .195 .143	.272 .189 .132 .262 .183 .130 .243 .173 .124	.238 .159 .103 .229 .156 .105 .214 .146 .099
80 70	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 30 30	6 .384 .292 .226 .369 .283 .218 .341 .266 .209	7 .337 .249 .189 .325 .240 .182 .301 .225 .173 .277 .213	8 .299 .214 .154 .288 .203 .150 .266 .195 .143 .248 .182	.272 .189 .132 .262 .183 .130 .243 .173 .124 .225 .161	.238 .159 .103 .229 .156 .105 .214 .146 .099
80 70 50	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.384 .292 .226 .369 .283 .218 .341 .266 .209	337 .249 .189 .325 .240 .182 .301 .225 .173	8 .299 .214 .154 .288 .203 .150 .266 .195 .143	.272 .189 .132 .262 .183 .130 .243 .173 .124	.238 .159 .103 .229 .156 .105 .214 .146 .099
80 70 50	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.384 .292 .226 .369 .283 .218 .341 .266 .209 .316 .249 .199	337 .249 .189 .325 .240 .182 .301 .225 .173 .277 .213 .163	.299 .214 .154 .288 .203 .150 .266 .195 .143 .248 .182 .136	.272 .189 .132 .262 .183 .130 .243 .173 .124 .225 .161 .117	.238 .159 .103 .229 .156 .105 .214 .146 .099 .198 .136 .093
80 70 50	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 30 30 30 30	.384 .292 .226 .369 .283 .218 .341 .266 .209 .316 .249 .199 .292 .233	7 .337 .249 .189 .325 .240 .182 .301 .225 .173 .277 .213 .163 .258 .200	.299 .214 .154 .288 .203 .150 .266 .195 .143 .248 .136 .223 .171	.272 .189 .132 .262 .183 .130 .243 .173 .124 .225 .161 .117 .209	.238 .159 .103 .229 .156 .105 .214 .146 .099 .198 .136 .093 .134 .127
70 50 30	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.384 .292 .226 .369 .283 .218 .341 .266 .209 .316 .249 .199	337 .249 .189 .325 .240 .182 .301 .225 .173 .277 .213 .163	.299 .214 .154 .288 .203 .150 .266 .195 .143 .248 .182 .136	.272 .189 .132 .262 .183 .130 .243 .173 .124 .225 .161 .117	.238 .159 .103 .229 .156 .105 .214 .146 .099 .198 .136 .093

3L

LMV Series 50-150W Low Profile -Medium Base

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence (HPS 35W, 50W) Marine & Wet Locations 3, 3R, 4, 4X; IP66

Applications:

LMV series Champ® luminaires are used:

- In applications involving low luminaire mounting heights or restricted mounting space or where luminaire weight is a factor
- In areas in which ignitible concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- · Where combustible dusts are present
- Where combustible dusts and flammable vapors are present simultaneously
- In elevated ambient temperatures often found in industrial applications
- In marine applications where water spray and corrosive atmospheres are considerations
- Wherever the damaging effects of wind, snow, sleet, or hot sun are found
- In manufacturing plants, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore or dockside installations, cold storage facilities, parking garages or wherever dust, dirt, water, vibration and rough usage are a problem

Features:

- Compact, lightweight design is ideal for low mounting heights.
- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion.
- Seven mounting arrangements to suit any lighting layout – pendant, flexible pendant, ceiling, wall, straight stanchion, angle stanchion, and quad-mount.
- Wide range of lamp wattages to meet specifiers' needs: 50, 70, 100 and 150 watt (HPS); 70 and 100 watt (MH) medium base lamps.
- Hinged ballast housing for ease of installation and maintenance.
- All luminaires designed to perform in a 40°C ambient temperature. Selected luminaires are suitable for ambient temperatures up to 65°C.
- Superior gasketing seals between the mounting module, housing, and optical assembly for optimum performance in wet and corrosive environments.
- Hubs with an integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Low ambient capability to -40°C.
- Dome and 30° angle reflectors made of bright white Krydon® material provide superior reflectivity, with twist-on feature requiring no tools or additional hardware. Will not chip, peel, dent, rust, or corrode.
- Grounding wire for safety.
- Medium base lamp sockets.



Certifications and Compliances:

NEC/CEC:

Class I, Division 2, Groups A, B, C, D HPS 35W, 50W - Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II) Class I, Zone 2

• IEC:

Zone 2 Ex nR IIC

UL Standards:

844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations

- CSA Standards:
 - C22.2 No. 137
- IEC Standards: 60079-15

Standard Materials:

- Ballast housings and mountings copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware stainless steel
- Reflectors (dome and angle) *Krydon* fiberglass-reinforced polyester material
- Globes heat and impact resistant, internally fluted glass
- Guards copper-free aluminum

Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Krydon material high reflectance white
- Stainless steel natural

Electrical Ratings:

- 120 volts, dual-tap (120/277), multi-tap*
- 50, 70, 100, 150 watts HPS**
- 70 and 100 watts MH

Options:

The following special options are available from the factory by adding suffix to luminaire Cat. No.:

Description	Suffix
 Restricted Breathing 	
Construction	S826
Class I, Division 2 & Zone 2	
Suitability	
Cooler Operating	

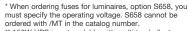
- Quick-Clip Holds weight of housing when closed. No need to support luminaire while screwing the housing to the cover

S806

FΑ

Accessories:

See pages 1022–1023 for complete listing



^{** 150}W HPS is not avalable with multi tap ballast. 120V only.

LMV Series 50-150W **High Pressure Sodium**

Low Profile - Medium Base Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence (35W, 50W) Marine & Wet Locations 3, 3R, 4, 4X; IP66

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see LMV Series - Ordering By Components page.

				BASIC CATALOG NUMBER
	Mounting Style	Hub Size	Lamp Watts	With G54 Globe and P50 Guard
	Pendant Mount	3/4	50	LMVS2A050GP
		1		LMVS3A050GP
1		³/ ₄ 1	70	LMVS2A070GP LMVS3A070GP
CHE L		3/4	100	LMVS2A100GP
VIEW		1		LMVS3A100GP
		3/4	150	LMVS2A150GP
		1		LMVS3A150GP
	Flexible Pendant Mount	3/4	50	LMVS2HA050GP
		3/ ₄ 3/ ₄	70 100	LMVS2HA070GP LMVS2HA100GP
U stee		3/4	150	LMVS2HA150GP
U				
	Ceiling Mount Thru-Feed	3/4	50	LMVS2C050GP
7 V.	3	1		LMVS3C050GP
4500		3/4	70	LMVS2C070GP
(64.3)		1 ³/ ₄	100	LMVS3C070GP LMVS2C100GP
		1	100	LMVS3C100GP
		3/4	150	LMVS2C150GP
		1		LMVS3C150GP
40	Wall Mount Thru-Feed	3/4	50	LMVS2TW050GP
		1 ³/ ₄	70	LMVS3TW050GP LMVS2TW070GP
St. 20 Per 1955		1	70	LMVS3TW070GP
100		3/4	100	LMVS2TW100GP
		1	150	LMVS3TW100GP
		³/ ₄ 1	150	LMVS2TW150GP LMVS3TW150GP
	Quad Mount	3/4	50	LMVS25Q050GP
_	Pendant, Adjustable	3/4	70	LMVS25Q070GP
- 00	Thru-Feed, 25° Angle,	3/4	100	LMVS25Q100GP
1	12¹/₂° Angle	3/4	150	LMVS25Q150GP
	Stanchion Mount	11/2	50	LMVSJ050GP
No.	25° Angle	11/2	70	LMVSJ070GP
The same of the sa		1½ 1½	100 150	LMVSJ100GP LMVSJ150GP
		172	100	
	Stanchion Mount	11/2	50	LMVSP050GP
	Straight	11/2	70	LMVSP070GP
		11/2	100	LMVSP100GP
U		11/2	150	LMVSP150GP

Add voltage suffix to end of catalog number
 Standard Voltage Ballasts – 60Hz

		NEC/UL				CEC/CSA (cUL)	
Voltage	Multi Tap	Dual Tap	120V	480V	Tri Tap	Dual Tap	120V
Suffix	/MT	/DT	/120	/480	/ПТ	/DT	/120

^{2. 150}W HPS Luminaires: For 55V lamps - add suffix LX. 50W HPS luminaire is dual tap only. 150W HPS is not available with multi tap ballast. 120V only.

^{3.} Options - Add the required option suffixes, see page 972, in alpha-numeric order.

3L

LMV Series 70-100W Metal Halide

Low Profile - Medium Base Champ[®] H.I.D. Luminaires Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Marine & Wet Locations 3, 3R, 4, 4X; IP66

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see LMV Series - Ordering By Components page.

				BASIC CATALOG NUMBER
	Mounting Style	Hub Size	Lamp Watts	With G54 Globe and P50 Guard
	Pendant Mount	3/ ₄ 1 3/ ₄ 1	70 100	LMVM2A070GP LMVM3A070GP LMVM2A100GP LMVM3A100GP
	Flexible Pendant Mount	3/ ₄ 3/ ₄	70 100	LMVM2HA070GP LMVM2HA100GP
	Ceiling Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1	70 100	LMVM2C070GP LMVM3C070GP LMVM2C100GP LMVM3C100GP
To the second	Wall Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1	70 100	LMVM2TW070GP LMVM3TW070GP LMVM2TW100GP LMVM3TW100GP
	Stanchion Mount 25° Angle	1½ 1½	70 100	LMVMJ070GP LMVMJ100GP
	Stanchion Mount Straight	1½ 1½	70 100	LMVMP070GP LMVMP100GP

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

-	ı	NEC/UL		CEC/CSA	(cUL)
Voltage	Multi Tap	120V	480V	Tri Tap	120V
Suffix	/MT	/120	/480	/TT	/120

^{2. 70}W ballast not available in 480V.

^{3.} Options - Add the required option suffixes, see page 972, in alpha-numeric order.

<u>3</u>L

LMV luminaires are available in components.

A complete luminaire consists of:

- I. Champ Cover (Mounting Module)
- II. LMV Ballast Housing Include voltage and required option(s)
- III. Globe, Guard, Reflector

I. Champ Cover (Mounting Module):

Туре	Conduit	Cat. #
Pendant	3/4"	APM2
	1"	APM3
Flexible Pendant	3/4"	HPM2
Ceiling	3/4"	CM2
	1"	СМЗ
Wall	3/4"	TWM2
	1"	TWM3
Stanchion – 25 Degree Angle	11/2"	JM5
Stanchion – Straight	11/2"	PM5
Quad-Mount	3/4"	QM25

II. Ballast Housings:

Complete catalog number must have the voltage suffix (MT shown) and any options suffixes.

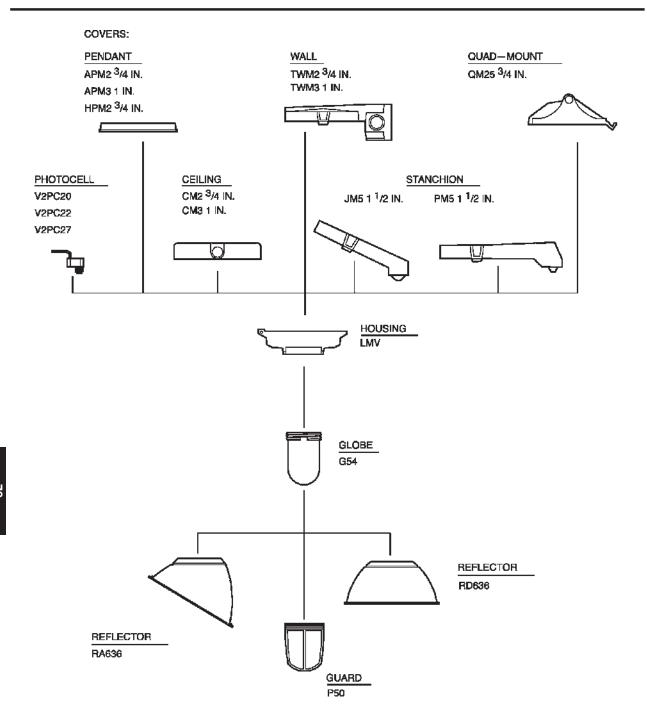
Lamp Type	Lamp Watts	Cat. #
High Pressure Sodium	50	LMVS050/120
	70	LMVS070/MT
	100	LMVS100/MT
	150	LMVS150/120 LX
Metal Halide	70	LMVM070/MT
	100	LMVM100/MT

III. Globe, Guards and Reflectors:

Туре	Cat. #
Globe	G54
Globe Guard	P50
Reflector - Dome	RD636
Reflector - Angle	RA636

3L LMV Series

Champ® H.I.D. Luminaires



	Lam	р	Rated Ambient °C	Class I, Division 2	Class	II, Division 1		Class I	, Zone 2	
Cat. #	Wattage	Type		Globe (G54) w/ or w/o Reflector (RA636 or RD636)	Group	Globe (G54) w/ or w/o Reflector (RA636 or RD636)	Simultaneous Presence Class I, Div. 2 Class II, Div. 1	Restricted Breathing Suffix \$826 w/ Globe (G24)	Factory Sealed Suffix S865 AEx nA nR II	Supply Wire Suitable for °C
LMVS50	50	HPS	40	T2D	EFG	T3C	T2B	T5	T3	N/A
LMVS50	50	HPS	55	T2C	_	_	_	T4	T3	75
LMVS50	50	HPS	65	T2C	_	_	_	T4	T3	85
LMVS70	70	HPS	40	T2B	_	_	_	T4	T3	75
LMVS70	70	HPS	55	T2B	_	_	_	T4	T3	85
LMVS100	100	HPS	40	T2	_	_	_	T4	T3	85
LMVS100	100	HPS	50	_	_	_	_	T3	Т3	90
LMVM70	70	MH	40	T2B	_	_	_	T4	Т3	75
LMVM70	70	MH	55	T2B	_	_	_	T4	T3	85
LMVM100	100	MH	40	_	_	_	_	T3	Т3	85
LMVM150	150	HPS	40	T1 350°C	_	_	_	_	_	85

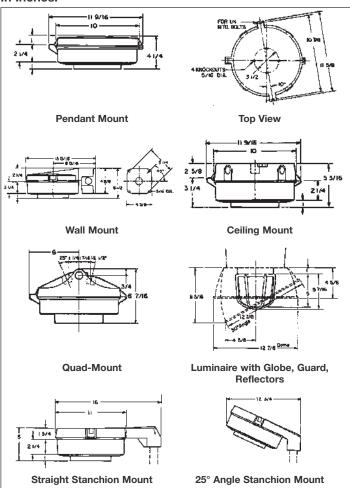
The Class I, Division 2 T-codes apply to luminaires without the restricted breathing (S826) or factory sealed (S865) options. These luminaires are listed to UL 844. UL 844 specifies how the temperatures are measured.

The Class I, Zone 2 T-codes are for luminaires that are additionally listed to UL 60079-15 that specify a different method for measuring temperatures. Since NEC* 501.1 states that equipment "...for use in Class I, Zone 0, 1, or 2 locations shall be permitted in Class I, Division 2 locations..." then these luminaires are suitable for Class I, Division 2 but with lower temperature ratings. They also have the advantage of meeting the more rigorous mechanical tests of UL 844.

3L LMV Series

Champ® H.I.D. Luminaires

Dimensions In Inches:



Luminaire Net Weights:

Deduct for luminaire without guard:

P50 Guard

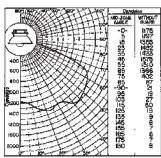
Luminaire Series	Lamp Watts	with Globe, Guard (lbs.)
LMVS	50	73/4
	70	81/4
	100	83/4
	150	91/4
LMVM	70	9
LIVIVIVI	100	9
Туре		Lbs.
Add for mou	ınting modules:	
Pendant		11/4
Flexible Pend	dant	11/2
Ceiling		23/4
Quad-Mount		31/2
Wall		41/2
Angle Stanch	nion	31/2
Straight Star	nchion	41/2
Туре		lbs.
		1501
Add for refle	ectors:	
Dome		1.0
30° Anale		1.0

Luminaire

Lamp: 100W/E-17 high pressure sodium (HPS) Total bare lamp lumens: 9500

All data provided is for high pressure sodium luminaires with 100W/E-17 clear lamps. Use conversion factors (multipliers) shown below for other lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any Champ Series.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

Luminaire Series	Lamp Watts	Con- version Factor
LMVS	35 50 70	0.24 0.42 0.67
	150	1.68

Luminaire spacing ratio: 2.0

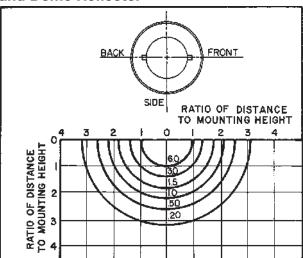
Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

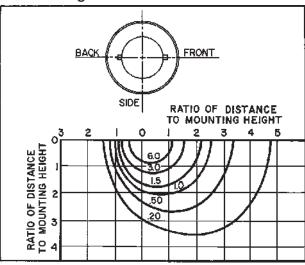
% Reflec	ctance		Room Cavity Ratio						
Eff. Ceil.	Wall	1	2	3	4	5			
80	50	.722	.628	.545	.473	.413			
	30	.691	.579	.487	.408	.346			
	10	.663	.537	.441	.358	.296			
70	50	.705	.613	.534	.463	.403			
	30	.676	.568	.479	.403	.340			
	10	.650	.531	.436	.355	.293			
50	50	.671	.585	.511	.442	.387			
	30	.647	.548	.464	.390	.332			
	10	.627	.514	.426	.349	.289			
30	50	.641	.560	.489	.424	.371			
	30	.623	.529	.450	.379	.322			
	10	.605	.501	.416	.342	.284			
10	50	.614	.537	.470	.407	.356			
	30	.598	.510	.436	.367	.341			
	10	.584	.488	.407	.335	.279			
0	0	.568	.471	.391	.319	.263			

% Reflec	ctance	Room Cavity Ratio						
Eff. Ceil	Wall	6	7	8	9	10		
80	50	.366	.324	.288	.261	.226		
	30	.300	.259	.225	.199	.165		
	10	.253	.215	.180	.156	.127		
70	50	.358	.318	.282	.256	.221		
	30	.295	.255	.223	.196	.165		
	10	.249	.212	.179	.156	.126		
50	50	.343	.305	.271	.246	.214		
	30	.288	.248	.217	.192	.161		
	10	.246	.209	.177	.154	.124		
30	50	.330	.292	.261	.237	.206		
	30	.280	.243	.210	.186	.157		
	10	.242	.205	.175	.152	.122		
10	50	.317	.282	.251	.228	.199		
	30	.272	.237	.206	.182	.152		
	10	.238	.202	.172	.149	.120		
0	0	.223	.187	.158	.136	.107		

Isofootcandle Chart: Luminaire with Globe and Dome Reflector



Isofootcandle Chart: Luminaire with Globe and 30° Angle Reflector



Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

Height (Ft.)	Factor	Height (Ft.)	Factor
6	2.78	14	0.51
8	1.56	16	0.39
12	0.70		

DMV Series 50-250W For Combustible Dusts

Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) CI. II, Groups E, F, G; CI. III & Simultaneous Presence (175W max)
Marine & Wet Locations 3, 3R, 4, 4X; IP66

Applications:

DMV series Champ luminaires are used:

- In applications made hazardous by the presence of combustible dusts
- In areas in which ignitible concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- In marine applications where water spray and corrosive atmospheres are considerations
- In areas where combustible dusts and flammable vapors are present simultaneously
- In elevated ambient temperatures often found in industrial applications
- In installations where moisture, dirt, dust, vibration, corrosion and rough usage are problems
- Wherever the damaging effects of wind, snow, sleet, or hot sun are found
- In grain handling, storage and processing plants, coal preparation plants, coal conveying areas, food processing plants, manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, offshore, dockside, and harbor installations, and other heavy industrial applications

Features:

- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion.
- Seven mounting arrangements to suit any lighting layout – pendant, flexible pendant, ceiling, wall bracket, angle stanchion, straight stanchion, and quad-mount.
- Wide range of light sources and wattages to meet specifiers' needs: 50, 70, 100, 150 watt high pressure sodium (HPS); 70, 100, 175, 250 watt metal halide.
- Hinged ballast housing for ease of installation and maintenance.
- All luminaires designed to perform in a 40°C ambient temperature. Selected luminaires are suitable for ambient temperatures up to 65°C.
- Superior gasketing seals between the mounting module, housing, and optical assembly for optimum performance in wet and corrosive environments.
- Hubs with an integral conduit stop and bushing to help prevent damage to field wiring during installation.
- Low ambient capability to (-40°C.)
- Dome and 30° angle reflectors made of bright white Krydon® material provide superior reflectivity, with twist-on feature requiring no tools or additional hardware.
 Will not chip, peel, dent, rust, or corrode.
- Mogul base porcelain lamp socket.
- Stainless steel open bottom guard permits direct access to the globe for easy relamping.



- · Grounding wire for safety.
- Ballasts available in voltages of 120, 208, 240, 277, 347, 480, 600 and multi-tap.*

Certifications and Compliances:

• NEC/CEC:

Class I, Division 2, Groups A, B, C, D 175W max – Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II) Class I, Zone 2

• IEC:

Zone 2 Ex nR IIC

- UL Standards: 844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations
- CSA Standards: C22.2 No. 137
- IEC Standards: 60079-15

Standard Materials:

- Ballast housings and mountings copperfree aluminum (less than 0.4 of 1% copper)
- Guard and exterior hardware stainless steel
- Reflectors (dome and angle) Krydon fiberglass-reinforced polyester material
- Globes heat and impact resistant, internally fluted glass

Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Krydon material high reflectance white
- Stainless steel natural

Electrical Ratings:

- 120, multi-tap* (120, 208, 240 and 277), tri-tap (120, 277, 347) 480, 600 volts
- 50-250W HPS; 70-250W MH

Options:

The following special options are available from the factory by adding suffix to luminaire Cat. No.:

D	escription	Suffix
•	Restricted Breathing Construction	. S826
	Class I, Division 2 & Zone 2	
	Suitabilty	
	Cooler Operating Temperatures	
	(T.).	

- (T-Numbers)

 Restricted Breathing/Non-Sparking .. \$865
 Class I, Division 2 & Zone 2
 Provides T3 code without conduit
 or cable seals

- Quick-Clip Holds weight of housing when closed. No need to support luminaire while screwing the housing to the cover
- Instant restrike enables a hot HPS lamp to immediately restrike after a momentary loss of arc due to voltage fluctuation or power outage. It has no effect on the warm-up period of cold lamps. 50–150W LX HPS only IR 50–100W LX HPS only TIR Quartz auxiliary lighting comes

Note: Some T-numbers (operating temperatures) change.

Note: BG and IR options cannot be used together. IR and QTZ options cannot be used together.

Accessories:

• See pages 1022–1023 for complete listing. TEFLON is a registered trademark of E.I. duPont Co. "When ordering fuses for luminaires, option \$658, you must specify the operating voltage. \$658 cannot be ordered with /MT in the catalog number.

Crouse-Hinds

DMV Series 50-150W High Pressure Sodium

For Combustible Dust Applications Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence Marine & Wet Locations 3, 3R, 4, 4X; IP66

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see DMV Series - Ordering By Components page. **BASIC CATALOG NUMBER**

				BASIC CATALOG NUMBER		
	Mounting	Hub	Lamp	With G303 Globe	With GR305 Glass	
	Style	Size	Watts	and P33 Guard	Refractor *	
	Pendant Mount	3/4	50	DMVS2A050GP	DMVS2A050GR305	
District of the last of the la		1	00	DMVS3A050GP	DMVS3A050GR305	
		3/4	70	DMVS2A070GP	DMVS2A070GR305	
dillitter.		1		DMVS3A070GP	DMVS3A070GR305	
6		3/4	100	DMVS2A100GP	DMVS2A100GR305	
115		1		DMVS3A100GP	DMVS3A100GR305	
Samuel S		3/4	150	DMVS2A150GP	DMVS2A150GR305	
		1		DMVS3A150GP	DMVS3A150GR305	
	Flexible Pendant	3/4	50	DMVS2HA050GP	DMVS2HA050GR305	
MILLION .	Mount	3/4	70	DMVS2HA070GP	DMVS2HA070GR305	
		3/4	100	DMVS2HA100GP	DMVS2HA100GR305	
1033344444		3/4	150	DMVS2HA150GP	DMVS2HA150GR305	
	Ceiling Mount	3/4	50	DMVS2C050GP	DMVS2C050GR305	
11100	Thru-Feed	1	00	DMVS3C050GP	DMVS3C050GR305	
(E-11110)		3/4	70	DMVS2C070GP	DMVS2C070GR305	
THE REAL PROPERTY.		1		DMVS3C070GP	DMVS3C070GR305	
		3/4	100	DMVS2C100GP	DMVS2C100GR305	
		1		DMVS3C100GP	DMVS3C100GR305	
10.00		3/4	150	DMVS2C150GP	DMVS2C150GR305	
95-24		1		DMVS3C150GP	DMVS3C150GR305	
	Wall Mount	3/4	50	DMVS2TW050GP	DMVS2TW050GR305	
	Thru-Feed	1		DMVS3TW050GP	DMVS3TW050GR305	
11111 37 44		3/4	70	DMVS2TW070GP	DMVS2TW070GR305	
		1		DMVS3TW070GP	DMVS3TW070GR305	
THE REAL PROPERTY.		3/4	100	DMVS2TW100GP	DMVS2TW100GR305	
		1		DMVS3TW100GP	DMVS3TW100GR305	
10000		3/4	150	DMVS2TW150GP	DMVS2TW150GR305	
A CHES		1		DMVS3TW150GP	DMVS3TW150GR305	
	Quad-Mount	3/4	50	DMVS25Q050GP	DMVS25Q050GR305	
	Pendant,	3/4	70	DMVS25Q070GP	DMVS25Q070GR305	
THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW	Adjustable Thru-Feed,	3/4	100	DMVS25Q100GP	DMVS25Q100GR305	
	25° Angle, 12½° Angle	3/4	150	DMVS25Q150GP	DMVS25Q150GR305	
E I	0 /					
	Stanchion Mount	11/2	50	DMVSJ050GP	DMVSJ050GR305	
	25° Angle	11/2	70	DMVSJ070GP	DMVSJ070GR305	
1 Dinn		11/2	100	DMVSJ100GP	DMVSJ100GR305	
		11/2	150	DMVSJ150GP	DMVSJ150GR305	
	Stanchion Mount	11/2	50	DMVSP050GP	DMVSP050GR305	
The second second	Straight	11/2	70	DMVSP070GP	DMVSP070GR305	
	5	11/2	100	DMVSP100GP	DMVSP100GR305	
E31100		11/2	150	DMVSP150GP	DMVSP150GR305	
-						

^{*} For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. DMVS2A050GR302 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. DMVS2A050GR303

1. Add voltage suffix to end of catalog number

_	NEC/UL							
Voltage	Multi Tap	Dual Tap	120V	480V	Tri Tap	Dual Tap	120V	
Suffix	/MT	/DT	/120	/480	/П	/DT	/120	
Optional Voltage E	Ballasts - 50 or 60		WI Isolated Ba	llasts		EXP	ORT	
Voltage	208V CWI	240V CWI	480V CWI	600V CWI	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz
Suffix	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/230 50	/240 50

- 2. 150W HPS Luminaires: For 55V lamps add suffix LX; for 100V lamps - add suffix CE. 50W HPS luminaire is dual tap only.
- 3. Options Add the required option suffixes, see page 980, in alpha-numeric order.

3L DMV Series - 150-250W Pulse Start Metal Halide

For Combustible Dust Applications Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence (175W max)
Marine & Wet Locations 3, 3R, 4, 4X; IP66

BASIC CATALOG NUMBER

To complete the catalog #, include information in notes 1 and 2 below. For guards and other optics see DMV Series - Ordering By Components page.

	B.A. a constitue or	11			AIALUG NUMBER
	Mounting	Hub	Lamp	With G303 Globe	With GR305 Glass
	Style	Size	Watts	and P33 Guard	Refractor *
	Daniel and Married	3/4	150	DMVM2A150GP S828	DMVM2A150GR305 S828
	Pendant Mount	1	130	DMVM3A150GP S828	DMVM3A150GR305 S828
BRITING		3/4	175	DMVM3A130GF 3020 DMVM2A175GP S828	DMVM2A175GR305 S828
		, .	175		
dilling.		1		DMVM3A175GP S828	DMVM3A175GR305 S828
8		3/4	200	DMVM2A200GP S828	DMVM2A200GR305 S828
		1		DMVM3A200GP S828	DMVM3A200GR305 S828
		3/4	250	DMVM2A250GP S828	DMVM2A250GR305 S828
* 1 La La C		1		DMVM3A250GP S828	DMVM3A250GR305 S828
	Flexible	3/4	150	DMVM2HA150GP S828	DMVM2HA150GR305 S828
		3/4	175	DMVM2HA175GP S828	DMVM2HA175GR305 S828
MINISTER	Pendant	3/4	200	DMVM2HA200GP S828	DMVM2HA200GR305 S828
93344444	Mount	3/4	250	DMVM2HA250GP S828	DMVM2HA250GR305 S828
William .		, -	200	DIII VIII 21 / 12 / 13 / 14 / 15 / 15 / 15 / 15 / 15 / 15 / 15	D. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
9 6					
CALL TO					
0 1 1 1					
44000	Cailing Mount	3/4	150	DMVM2C150GP S828	DMVM2C150GR305 S828
Transfer Transfer	Ceiling Mount	1		DMVM3C150GP S828	DMVM3C150GR305 S828
E 1110	Thru-Feed	3/4	175	DMVM2C175GP S828	DMVM2C175GR305 S828
Distance of the last of the la		1	170	DMVM3C175GP S828	DMVM3C175GR305 S828
		3/4	200	DMVM2C200GP S828	DMVM2C200GR305 S828
1000000			200		
15000		1	050	DMVM3C200GP S828	DMVM3C200GR305 S828
Service Control		3/4	250	DMVM2C250GP S828	DMVM2C250GR305 S828
Market Market		1		DMVM3C250GP S828	DMVM3C250GR305 S828
	Wall Mount	3/4	150	DMVM2TW150GP S828	DMVM2TW150GR305 S828
	Thru-Feed	1		DMVM3TW150GP S828	DMVM3TW150GR305 S828
11111 TO 1111	mru-reed	3/4	175	DMVM2TW175GP S828	DMVM2TW175GR305 S828
		1		DMVM3TW175GP S828	DMVM3TW175GR305 S828
_11114 # # COLUMN		3/4	200	DMVM2TW200GP S828	DMVM2TW200GR305 S828
The second second		1	200	DMVM3TW200GP S828	DMVM3TW200GR305 S828
100		3/4	250	DMVM2TW250GP S828	DMVM3TW250GR305 S828
1000			250		
		11		DMVM3TW250GP S828	DMVM3TW250GR305 S828
	Quad-Mount	3/4	150	DMVM25Q150GP S828	DMVM25Q150GR305 S828
-	Pendant, Adjustable	3/4	175	DMVM25Q175GP S828	DMVM25Q175GR305 S828
		3/4	200	DMVM25Q200GP S828	DMVM25Q200GR305 S828
3811111	Thru-Feed, 25° Angle,	3/4	250	DMVM25Q250GP S828	DMVM25Q250GR305 S828
Manage of	12¹/₂° Angle	, -			
The state of the s					
10-1					
(Marine)					
1 MARIE 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
	Stanchion Mount	1 1/2	150	DMVMJ150GP S828	DMVMJ150GR305 S828
	25° Angle	11/2	175	DMVMJ175GP S828	DMVMJ175GR305 S828
11/1/2	20 Aligie	11/2	200	DMVMJ200GP S828	DMVMJ200GR305 S828
12 10/11/10		11/2	250	DMVMJ250GP S828	DMVMJ250GR305 S828
(See 11 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /					
Mary Constitution					
800 H					
C.79					
	Stanchion Mount	1 1/2	150	DMVMP150GP S828	DMVMP150GR305 S828
PARTY STATE	Straight	1 1/2	175	DMVMP175GP S828	DMVMP175GR305 S828
10 21111 B.O.	3	1 1/2	200	DMVMP200GP S828	DMVMP200GR305 S828
		11/2	250	DMVMP250GP S828	DMVMP250GR305 S828
STATISTICS.					

^{*} For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. DMVM2A150GR302-S828 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. DMVM2A150GR303-S828

Add voltage suffix to end of catalog number Standard Voltage Pollagte 60Hz

NEC/UL				CEC/CSA (cUL)			
Voltage	Multi Tap	120V	480V	Tri Tap	120V		
Suffix	/MT	/120	/480	/TT	/120		
Optional Voltage Ballas	IS - 50 OF BUHZ	EXI	PORT				
Voltage	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz			
Suffix	/220	/220 50	/230 50	/240 50			

^{2.} Options - Add the required option suffixes, see page 980, in alpha-numeric order.

DMV Series 70–250W Metal Halide

For Combustible Dust Applications Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence (175W max)
Marine & Wet Locations 3, 3R, 4, 4X; IP66

BASIC CATALOG NUMBER

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see DMV Series - Ordering By Components page.

					BASIC CATALOG NUMBER
	Mounting	Hub	Lamp	With G303 Globe	With GR305 Glass
	Style	Size	Watts	and P33 Guard	Refractor *
		3/4	70	D141/14040700D	DIAMAGAGTOODGG
	Pendant Mount		70	DMVM2A070GP	DMVM2A070GR305
BRIDGE STATE		1		DMVM3A070GP	DMVM3A070GR305
		3/4	100	DMVM2A100GP	DMVM2A100GR305
ALL STATE OF THE PARTY OF THE P		1		DMVM3A100GP	DMVM3A100GR305
4.11 3		3/4	175	DMVM2A175GP	DMVM2A175GR305
		1		DMVM3A175GP	DMVM3A175GR305
8 3		3/4	250	DMVM2A250GP	DMVM2A250GR305
1000		1		DMVM3A250GP	DMVM3A250GR305
	Flexible	3/4	70	DMVM2HA070GP	DMVM2HA070GR305
		3/4			
1011111111	Pendant		100	DMVM2HA100GP	DMVM2HA100GR305
93344444	Mount	3/4	175	DMVM2HA175GP	DMVM2HA175GR305
dilling.		3/4	250	DMVM2HA250GP	DMVM2HA250GR305
0					
01117					
			=-		B10/040605-25-2
	Ceiling Mount	3/4	70	DMVM2C070GP	DMVM2C070GR305
7 111to	Thru-Feed	1		DMVM3C070GP	DMVM3C070GR305
(E-SHHIR)		3/4	100	DMVM2C100GP	DMVM2C100GR305
(A)		1		DMVM3C100GP	DMVM3C100GR305
		3/4	175	DMVM2C175GP	DMVM2C175GR305
1000		1	170	DMVM3C175GP	DMVM3C175GR305
10000		3/4	050		
			250	DMVM2C250GP	DMVM2C250GR305
		1		DMVM3C250GP	DMVM3C250GR305
	Wall Mount	3/4	70	DMVM2TW070GP	DMVM2TW070GR305
100	Thru-Feed	1		DMVM3TW070GP	DMVM3TW070GR305
THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM	11114 1 004	3/4	100	DMVM2TW100GP	DMVM2TW100GR305
37		1	100	DMVM3TW100GP	DMVM3TW100GR305
_1111 # # COLUMN		3/4	175	DMVM2TW175GP	DMVM2TW175GR305
750			175		
100		1		DMVM3TW175GP	DMVM3TW175GR305
		3/4	250	DMVM2TW250GP	DMVM2TW250GR305
		1		DMVM3TW250GP	DMVM3TW250GR305
	Quad-Mount	3/4	70	DMVM25Q070GP	DMVM25Q070GR305
	Pendant, Adjustable	3/4	100	DMVM25Q100GP	DMVM25Q100GR305
	Thru-Feed, 25° Angle,	3/4	175	DMVM25Q175GP	DMVM25Q175GR305
20010011					
Guilly 2	12½° Angle	3/4	250	DMVM25Q250GP	DMVM25Q250GR305
The state of the s					
9-7					
R. J.					
190 T T					
	011-1 141	4./	70	D141/14 10700D	DANGA IOTOODOOF
	Stanchion Mount	11/2	70	DMVMJ070GP	DMVMJ070GR305
A STATE OF THE PARTY OF THE PAR	25° Angle	11/2	100	DMVMJ100GP	DMVMJ100GR305
		11/2	175	DMVMJ175GP	DMVMJ175GR305
13-20//////		1 1/2	250	DMVMJ250GP	DMVMJ250GR305
(SEE 14 10)					
1 1					
1					
1.000					
	Stanchion Mount	11/2	70	DMVMP070GP	DMVMP070GR305
NAME OF TAXABLE PARTY.	Straight	11/2	100	DMVMP100GP	DMVMP100GR305
THE WHITE BEAUTION	-	11/2	175	DMVMP175GP	DMVMP175GR305
		11/2	250	DMVMP250GP	DMVMP250GR305
The state of the s		1 /2	_00		DINTIN 200011000
100					

For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. DMVM2A070GR302 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. DMVM2A070GR303

Add voltage suffix to end of catalog number

Standard Voltage	Ballasts – 60Hz						
		NEC/UL		CEC/CS	SA (cUL)		
Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120		
	CSA (cUL) - CWI Isola	ited Ballasts - 175W	and 250W MH only		EXP	ORT	

 ⁷⁰W ballast not available in 480V.

^{3.} Options - Add the required option suffixes, see page 980, in alpha-numeric order.

3L DMV Series – Ordering by Components

DMV luminaires are available in components.

A complete luminaire consists of:

- I. Champ Cover (Mounting Module)
- II. DMV Ballast Housing Include voltage and required option(s)
- III. Globe, Refractor, Guard, Reflector

I. Champ Cover (Mounting Module):

Туре	Conduit	Cat. #
Pendant	3/4"	APM2
	1"	APM3
Flexible Pendant	3/4"	HPM2
Ceiling	3/4"	CM2
	1"	CM3
Wall	3/4"	TWM2
	1"	TWM3
Stanchion – 25 Degree Angle	11/2"	JM5
Stanchion - Straight	11/2"	PM5
Quad-Mount	3/4"	QM25

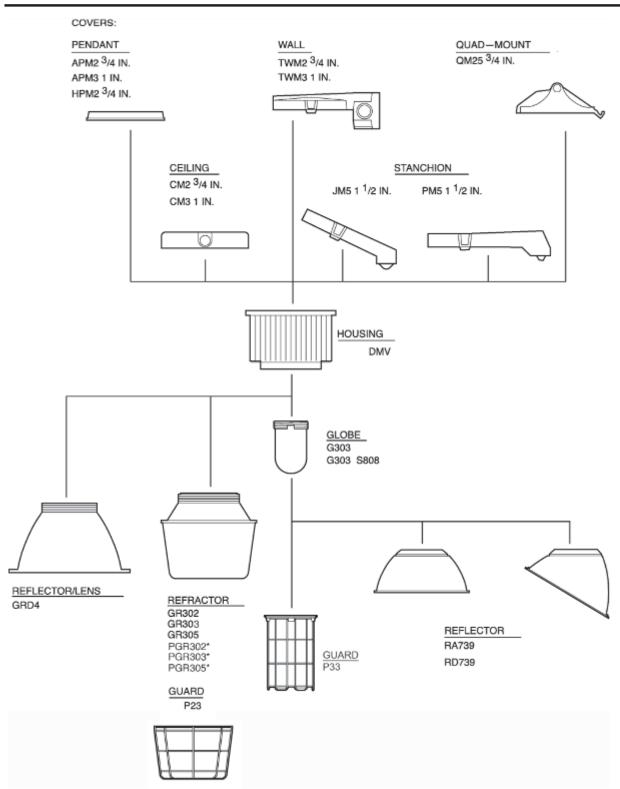
II. Ballast Housings:

Complete catalog number must have the voltage suffix (MT shown) and any options suffixes.

Lamp Type	Lamp Watts	Cat. #
High Pressure Sodium	50	DMVS050/MT
	70	DMVS070/MT
	100	DMVS100/MT
	150	DMVS150/MT LX
Metal Halide	70	DMVM070/MT
	100	DMVM100/MT
	175	DMVM175/MT
	250	DMVM250/MT

III. Globe, Reflectors, Refractors, Guards:

,,,					
Туре	Cat. #				
Globe	G303				
Globe - Teflon Coated	G303S808				
Globe Guard	P33				
Reflector – Dome	RD739				
Reflector – Angle	RA739				
Refractor – Type 2	GR302				
Refractor – Type 3	GR303				
Refractor – Type 5	GR305				
Large Plastic Refractor Type 2	PGR302				
Large Plastic Refractor Type 3	PGR303				
Large Plastic Refractor Type 5	PGR305				
Refractor Guard	P23				
High Bay Reflector/Lens	GRD4				



*Plastic refractors are non-hazardous areas only (50-100W Max.)

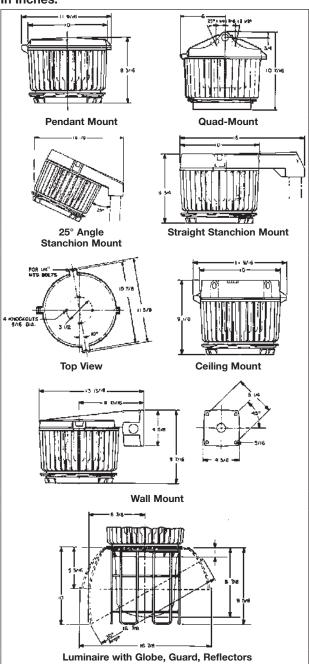
	Lai	тр	Rated Ambient °C	Class I, I	Division 2	Class II,	Division 1		CI	ass I, Zone :	2	
Cat. #	Wattage	Туре		Globe (G303) w/ or w/o Reflector (RA739 or RD739)*	Refractor (GR302 or GR303 or GR305)	Refractor (G302 or G303 or G305) or Globe (G303)†	Globe (G303) with Reflector (RA739 or RD739)	Simultaneous Presence Class I, Div. 2 Class II, Div. 1 (with G303 Globe only)	Restricted Breathing Suffix S826 w/ Globe (G303)	Globe (G303) with Reflector (RA739 or RD739)	Factory Sealed Suffix S865 AEx nA nR II	Supply Wire Suitable for °C
DMVS50 DMVS50 DMVS50 DMVS70 DMVS70 DMVS100 DMVS100 DMVS100 DMVS150 DMVS150 DMVS150	50 50 50 70 70 70 100 100 150 150	HPS	40 55 65 40 55 65 40 55 65 40 55	T3A T3 T3 T3A T3 T3 T3 T2D T2C T2C T2C T2B T2B T2B	T3A T3 T3 T3A T3 T3 T3 T2D T2C T2C T2C T2B T2B T2B	T6 T5 T4A T6 T5 T4A T5 T4A — T3C —	T6 T5 T4A T6 T5 T4A T5 T4A — T3C —	T3A T3 T3 T3A T3 T3A T3 T3 T3D T2C — T2C — T2A — —	T6 T5 T5 T6 T5 T5 T6 T5 T6 T7 T6 T7 T4 T5 T4	T6 T5 T6 T5 T6 T5 T6 T5 T6 T5 T6 T5 T4 T5	T3 T	90 90 90 90 90 90 90 90 90 90
DMVM70 DMVM70 DMVM100 DMVM100 DMVM150 DMVM150 DMVM150 DMVM175 DMVM175 DMVM175 DMVM175 DMVM175 DMVM175 DMVM175 DMVM175 DMVM200 DMVM200 DMVM200 DMVM250 DMVM250	70 70 70 100 100 150 150 150 175 175 175 175 175 175 200 200 250	MH MH MH MH MH MH MH PS MH PS MH PS MH	40 55 65 40 55 65 40 55 65 40 55 65 40 55 65 40 55 55 65 40 55 55 65 40 55 55 65 40 55 65 40 55 65 40 55 65 40 55 65 40 55 65 65 65 65 65 65 65 65 65 65 65 65	T3C* T3B* T3A* T33* T2D* T2B T2A T2A T2A* T2A* T2A* T2A* T2A* T2A* T	T3C T3C T3A T3A T3A T2D T2 T2 T2 T2	T3C T3C - T4A T4 T4 T3C T4A T3C - T4A T4 T4	 T4A T4 T3C T4A T4 	- - - - - - - T2A - - - - - - -	T6 T5 T5 T5 T4 T4 T4 T4 T4 T3 T4 T4 T3 T4 T4 T4 T3	T6 T5 T5 T5 T4 T4 T4 T4 T4 T3 T4 T4 T3 T4 T4 T4 T3	T3 T	90 90 90 90 90 90 105 105 105 90 90 105 105 105 90 90
DMVF52 DMVF64 DMVF84	2 / 26 (52) 2 / 32 (64) 2 / 42 (84)	CF CF CF	40 40 40	T3 T3 T3A	_ _ _	T6 T6 T4A	— Т6 Т4А	_ _ _	T6 T6 T4	T6 T6 T4	T3 T3 —	90 90 90
DMVIG85 DMVIG85 DMVIG165	85 85 165	Induction Induction Induction	40 55 40	T3 T2D T3	T3 T2D —	T5 T4A T2D	T5 T4A —	– – T2D	T6 T5 T5	T6 T5 —	T5 T4 —	90 90 90

The Class I, Division 2 T-codes apply to luminaires without the restricted breathing (S826) or factory sealed (S865) options. These luminaires are listed to UL 844. UL 844 specifies how the temperatures are measured.

The Class I, Zone 2 T-codes are for luminaires that are additionally listed to UL 60079-15 that specify a different method for measuring temperatures. Since NEC® 501.1 states that equipment "...for use in Class I, Zone 0, 1, or 2 locations shall be permitted in Class I, Division 2 locations..." then these luminaires are suitable for Class I, Division 2 but with lower temperature ratings. They also have the advantage of meeting the more rigorous mechanical tests of UL 844.

^{*}All DMVM 175W and below MH luminaires provided with Catalog number G303-S808 have a T2A T-code.
†For use with refractor only when this table indicates by means of a T-code that the refractor is suitable for use with Class I, Division 2 luminaires.

Dimensions In Inches:



Net Luminaire Weights (lbs.):

Luminaire Series	Lamp Watts	Luminaire with Globe, Guard (lbs.)	Lamp Watts	Luminaire with Globe, Guard (lbs.)
DMVS	50	23	70	23 ¹ / ₁₆
	100	24 ¹ / ₁₆	150	26 ¹ / ₈
DMVM	70	21	100	21 ¹ / ₁₆
	175	22 ¹ / ₄	250	24

Туре	Lbs.	Туре	Lbs.
Add for mounting mo			
Pendant	11/4	Flexible Pendant	11/2
Ceiling	23/4	Wall	41/2
Quad Mount	31/2	Angle Stanchion	31/2
Straight Stanchion	41/2		
Add for reflectors:			
Dome	11/4	30° Angle	13/4

Deduct: 1 lb. for luminaire without P33 Guard. **Add:** 5½ lbs. for luminaire with GR305 refractor.

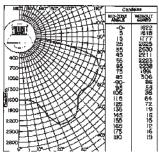
3L DMV Series

Champ® H.I.D. Luminaires

Lamp: 150W/E-23-1/2 clear high pressure sodium (HPS) Total bare lamp lumens: 16000

NOTE: All data provided is for high pressure sodium luminaires with 150W/E–23-1/2 clear lamps. Use conversion factors (multipliers) shown below for other clear lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any Champ series luminaires.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

Luminaire Series	Lamp Watts	Con- version Factor
DMVS	50 70 100	0.25 0.40 0.59

Luminaire spacing ratio: 1.90

5

.418

.476

Coefficient of Utilization

% Reflectance

Eff. Ceil.

Effective Floor Cavity Reflectance 20%

Wall

50

80	30 10	.719 .683	.582	.480	.400 .342	.340 .283
70	50 30 10	.740 .703 .669	.627 .570 .523	.538 .471 .418	.465 .394 .338	.406 .334 .280
50	50 30 10	.703 .672 .645	.595 .548 .506	.512 .455 .408	.442 .381 .332	.388 .324 .276
30	50 30 10	.669 .646 .622	.567 .528 .492	.488 .439 .399	.422 .368 .325	.370 .314 .270
10	50 30 10	.640 .619 .600	.541 .508 .479	.466 .424 .389	.403 .356 .318	.354 .305 .265
0	0	.582	.459	.370	.299	.247
% Reflectar	nce Wall	Room 6	Cavity F	Ratio 8	9	10
LII. OCII.	wan	•		•	•	
80	50 30 10	.371 .296 .243	.330 .257 .208	.294 .224 .174	.267 .198 .151	.231 .164 .121
	50 30	.371 .296	.330 .257	.294	.267 .198	.231 .164
80	50 30 10 50 30	.371 .296 .243 .362 .291	.330 .257 .208 .323 .252	.294 .224 .174 .288 .221	.267 .198 .151 .262 .195	.231 .164 .121 .226 .164
70	50 30 10 50 30 10 50 30	.371 .296 .243 .362 .291 .238 .345 .283	.330 .257 .208 .323 .252 .204 .309 .244	.294 .224 .174 .288 .221 .173 .275 .215	.267 .198 .151 .262 .195 .151 .250	.231 .164 .121 .226 .164 .121 .218 .159
70	50 30 10 50 30 10 50 30 10 50 30 10	.371 .296 .243 .362 .291 .238 .345 .283 .235 .331 .275	.330 .257 .208 .323 .252 .204 .309 .244 .201 .294 .239	.294 .224 .174 .288 .221 .173 .275 .215 .170 .265 .208	.267 .198 .151 .262 .195 .151 .250 .190 .148 .240 .184	.231 .164 .121 .226 .164 .121 .218 .159 .119

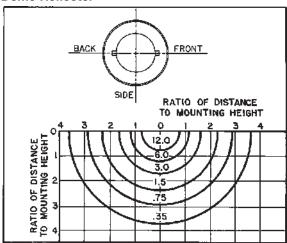
Room Cavity Ratio

.643

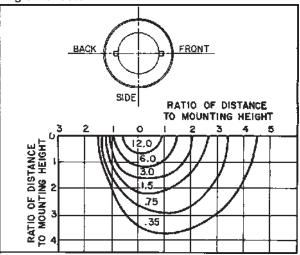
.551

.759

Isofootcandle Chart: Luminaire with Globe and Dome Reflector



Isofootcandle Chart: Luminaire with Globe and 30° Angle Reflector



Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

Height (Ft.)	Factor	Height (Ft.)	Factor
8	1.56	16	.391
12	.694	20	.250
14	.510		

VMV High Wattage Series 200-400W For Medium and High Mounting Heights

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence (with Glass Refractor)
Marine (with Globe or Glass Refractor) & Wet Locations 3, 3R, 4, 4X; IP66

Champ® H.I.D. Luminaires

Applications:

VMV high wattage series Champ luminaires are used:

- In manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, and other heavy industrial applications
- · In applications involving medium and high mounting heights
- In applications where energy-efficient, high lumen output is required
- In areas in which ignitible concentrations of flammable gases or vapors will be present only due to abnormal, unusual, or accidental conditions
- In marine applications where water spray and corrosive atmospheres are considerations
- In elevated ambient temperatures often found in industrial applications
- In installations where moisture, dirt, dust, vibration, corrosion and rough usage are problems
- Wherever the damaging effects of water, wind, snow, sleet, hot sun, or any combination of these elements, are problems

Features:

- Cast copper-free aluminum construction (less than 0.4 of 1% copper) and epoxy powder finish provide excellent resistance to corrosion
- Six mounting arrangements to suit any lighting layout pendant, ceiling, wall bracket, angle stanchion, straight stanchion and quad-mount
- Wide range of light sources and wattages to meet specifiers' needs: 200, 250, 400 watt high pressure sodium (HPS); 250 and 400 watt metal halide (MH) and pulse start metal halide
- Hinged ballast housing for ease of installation and maintenance
- Wide choice of photometric distributions. Glass globes, glass refractors, and reflector/lens are available
- All luminaires designed to perform in a 40°C ambient temperature.
 Selected luminaires are suitable for ambient temperatures up to 65°C
- Superior gasketing seals between the mounting module, housing, and optical assembly for optimum performance in wet and corrosive environments
- Hubs with integral conduit stop and bushing to help prevent damage to field wiring during installation
- Low ambient capability to (-40°C)
- Dome and 30° angle reflectors made of bright white Krydon® material and etched Alzak® high bay reflectors provide superior reflectivity
- · Grounding wire for safety
- High power factor ballasts (Min. P. F. 90%) are available in a variety of voltages to meet local area requirements
- Mogul base lamp socket

Certifications and Compliances:

NEC/CEC:

Class I, Division 2, Groups A, B, C, D With Glass Refractor - Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II) Class I, Zone 2

• IEC:

Zone 2 Ex nR IIC

UL Standards:

844 Hazardous (Classified) Locations

1598 Luminaires

1598A Marine Locations

CSA Standards:

C22.2 No. 137

 IEC Standards: 60079-15

Crouse-Hinds

Standard Materials:

- Ballast housings and mountings copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware and guards stainless steel
- Reflectors (dome and angle) Krydon fiberglass-reinforced polyester material
- Globes heat and impact resistant internally fluted glass
- · Refractors glass
- Reflector lens spun Alzak aluminum, tempered glass, stainless steel door frame



Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Alzak aluminum natural
- Stainless steel natural
- Krydon material high reflectance white

Options:

The following special options are available from the factory by adding suffix to luminaire Cat. No.:

Description	Suffix
Restricted Breathing Construction	S826‡
Class I, Division 2 & Zone 2 Suitability	
Cooler Operating Temperatures (T-Numbers)	
Certified for IEC Zone 2	S826TB‡
Furnished with terminal block crimp terminals and	
dedicated voltage ballasts (no MT, DT, or TT)	

 Fused – to protect ballast and capacitors against abnormal line conditions (Not available with /MT ballast)

(Not suitable for marine applications)......

• Quick-Clip - Holds weight of housing when closed.

No need to support luminaire while screwing the housing to the cover.....

Quartz auxilliary lighting – comes to full brightness immediately and remains lit until the HID lamp attains 60–70% of full illumination. For non-hazardous locations only....
 Ballast-Gard™ starter cutout switch – prevents starter

Ballast-gard in starter cutout switch – prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 200–400W HPS only......

 Factory assembled with H.I.D. lamps installed for

 Factory assembled with H.I.D. lamps installed for additional labor savings.....
 Top hat with stainless steel threaded insert to attach

Q100CL/DC, or 100Q/CL/DC). Consult factory for top-hat limitations. **Electrical Ratings:**

- 120 to 600 volts and multi-tap
- 200, 250, 400W HPS and MH

Accessories:

• See pages 1022–1023 for complete listing.

Alzak is a registered trademark of ALCOA.

"When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number. †Not for use in Canada.

‡Suffix S826 and S826TB cannot be used with GRD4 Reflector/Lens

S658†*

S890

QTZ

BG

FA

S806

3L VMV High Wattage Series 200-400W High Pressure Sodium

For Medium and High Mounting Heights Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Cl. II, Groups E, F, G; Cl. III & Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) (with Glass Refractor) Certified for IEC Zone 2 (Suffix S826TB)

Simultaneous Presence Marine (with Globe or Glass Refractor) & Wet Locations 3, 3R, 4, 4X; IP56 to IP66

To complete the catalog #, include information in notes 1 and 2 below. For guards and other optics see VMV High Wattage Series - Ordering By Components page.

, , , , ,					BASIC CATALOG NUME	BER
	Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor *	With GRD4 Reflector/Lens
	Pendant Mount (Rigid or Flexible)	3/ ₄ 1 3/ ₄ 1 3/ ₄ 1	200 250 400	VMVS2A200GP VMVS3A200GP VMVS2A250GP VMVS3A250GP VMVS2A400GP VMVS3A400GP	VMVS2A200GR305 VMVS3A200GR305 VMVS2A250GR305 VMVS3A250GR305 VMVS2A400GR305 VMVS3A400GR305	VMVS2A200GRD4 VMVS3A200GRD4 VMVS2A250GRD4 VMVS3A250GRD4 VMVS2A400GRD4 VMVS3A400GRD4
	Ceiling Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1 3/ ₄	200 250 400	VMVS2C200GP VMVS3C200GP VMVS2C250GP VMVS3C250GP VMVS2C400GP VMVS3C400GP	VMVS2C200GR305 VMVS3C200GR305 VMVS2C250GR305 VMVS3C250GR305 VMVS2C400GR305 VMVS3C400GR305	VMVS2C200GRD4 VMVS3C200GRD4 VMVS2C250GRD4 VMVS3C250GRD4 VMVS2C400GRD4 VMVS3C400GRD4
	Wall Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1 3/ ₄ 1	200 250 400	VMVS2TW200GP VMVS3TW200GP VMVS2TW250GP VMVS3TW250GP VMVS2TW400GP VMVS3TW400GP	VMVS2TW200GR305 VMVS3TW200GR305 VMVS2TW250GR305 VMVS3TW250GR305 VMVS2TW400GR305 VMVS3TW400GR305	
	Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 121/2° Angle	3/ ₄ 3/ ₄ 3/ ₄	200 250 400	VMVS25Q200GP VMVS25Q250GP VMVS25Q400GP	VMVS25Q200GR305 VMVS25Q250GR305 VMVS25Q400GR305	VMVS25Q200GRD4 VMVS25Q250GRD4 VMVS25Q400GRD4
	Stanchion Mount 25° Angle	1½ 1½ 1½ 1½	200 250 400	VMVSJ200GP VMVSJ250GP VMVSJ400GP	VMVSJ200GR305 VMVSJ250GR305 VMVSJ400GR305	VMVSJ200GRD4 VMVSJ250GRD4 VMVSJ400GRD4
	Stanchion Mount Straight	1½ 1½ 1½	200 250 400	VMVSP200GP VMVSP250GP VMVSP400GP	VMVSP200GR305 VMVSP250GR305 VMVSP400GR305	

1. Add voltage suffix to end of catalog number

Standard Voltage Ballas	ts – 60Hz							
	NEC/UL			CEC/CSA (cUL)				
Voltage	Multi Tap	120V	480V		Tri Tap	120V		
Suffix	/MT	/120	/480		/TT	/120		
Optional Voltage Ballasts - 50 or 60Hz CEC/CSA (cUL) - CWI Isolated Ballasts						EXP	ORT	
Voltage Suffix	208V CWI /208CWI	240V CWI /240CWI	480V CWI /480CWI	600V CWI /600CWI	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50

2. Options - Add the required option suffixes, see page 989, in alpha-numeric order.

^{*} For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. VMVS2A200GR302 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. VMVS2A200GR303

VMV High Wattage Series 250-400W Pulse Start Metal Halide

For Medium and High Mounting Heights Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence (with Glass Refractor) Marine (with Globe or Glass Refractor) & Wet Locations 3, 3R, 4, 4X; IP56 to IP66

To complete the catalog #, include information in notes 1 and 2 below. For guards and other optics see VMV High Wattage Series - Ordering By Components page.

, , , , , , , , , , , , , , , , , , , ,					BASIC CATALOG NUMBER	3
	Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor *	With GRD4 Reflector/Lens
	Pendant Mount (Rigid or Flexible)	3/ ₄ 1 3/ ₄ 1 3/ ₄ 1	250 320 400**	VMVM2A250GP S828 VMVM3A250GP S828 VMVM2A320GP S828 VMVM3A320GP S828 VMVM2A400GP S828 VMVM3A400GP S828	VMVM2A250GR305 S828 VMVM3A250GR305 S828 VMVM2A320GR305 S828 VMVM3A320GR305 S828 VMVM2A400GR305 S828 VMVM3A400GR305 S828	VMVM2A250GRD4 S828 VMVM3A250GRD4 S828 VMVM2A320GRD4 S828 VMVM3A320GRD4 S828 VMVM2A400GRD4 S828 VMVM3A400GRD4 S828
	Ceiling Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1 3/ ₄ 1	250 320 400**	VMVM2C250GP S828 VMVM3C250GP S828 VMVM2C320GP S828 VMVM3C320GP S828 VMVM2C400GP S828 VMVM3C400GP S828	VMVM2C250GR305 S828 VMVM3C250GR305 S828 VMVM2C320GR305 S828 VMVM3C320GR305 S828 VMVM2C400GR305 S828 VMVM3C400GR305 S828	VMVM2C250GRD4 S828 VMVM3C250GRD4 S828 VMVM2C320GRD4 S828 VMVM3C320GRD4 S828 VMVM2C400GRD4 S828 VMVM3C400GRD4 S828
	Wall Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1 3/ ₄ 1	250 320 400**	VMVM3TW250GP S828 VMVM2TW320GP S828 VMVM3TW320GP S828 VMVM2TW400GP S828	VMVM2TW250GR305 S828 VMVM3TW250GR305 S828 VMVM2TW320GR305 S828 VMVM3TW320GR305 S828 VMVM2TW400GR305 S828 VMVM3TW400GR305 S828	
	Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 121/2° Angle	3/ ₄ 3/ ₄ 3/ ₄	250 320 400**	VMVM25Q250GP S828 VMVM25Q320GP S828 VMVM25Q400GP S828	VMVM25Q250GR305 S828 VMVM25Q320GR305 S828 VMVM25Q400GR305 S828	VMVM25Q250GRD4 S828 VMVM25Q320GRD4 S828 VMVM25Q400GRD4 S828
	Stanchion Mount 25° Angle	1½ 1½ 1½	250 320 400**	VMVMJ250GP S828 VMVMJ320GP S828 VMVMJ400GP S828	VMVMJ250GR305 S828 VMVMJ320GR305 S828 VMVMJ400GR305 S828	VMVMJ250GRD4 S828 VMVMJ320GRD4 S828 VMVMJ400GRD4 S828
	Stanchion Mount Straight	1½ 1½ 1½	250 320 400**	VMVMP250GP S828 VMVMP320GP S828 VMVMP400GP S828	VMVMP250GR305 S828 VMVMP320GR305 S828 VMVMP400GR305 S828	

- * For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. VMVM2A250GR302-S828 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. VMVM2A250GR303-S828 ** To be used with ED28 (bulb shaped lamp).

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz								
		NEC/UL		CEC/CS/	A (cUL)			
Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120			

Optional Voltage Ballasts - 50 or 60Hz EXPORT

 Voltage
 220V 60Hz
 220V 50Hz
 230V 50Hz
 240V 50Hz

 Suffix
 /220
 /220 50
 /230 50
 /240 50

2. Options - Add the required option suffixes, see page 989,

Lamp Selection Table:

Fixture	Lamp Type	Bulb	Venture	Phillips	Sylvania
			MP 320W/BU/ED28/UVS/PS/EM/950	MS320/U/PS	MS320/PS/BU-HOR
VMVM320GP	320W PS MH	ED28, BT28	MP 320W/BU/ED28/UVS/PS/740	MS320/C/BU/PS	-
			MP 320W/C/BU/ED28/EVS/PS/737	-	-
VMVM400GP	400W PS MH	ED28 BT28	MP //////RI I/ED28/I I/S/PS/EM/950	N/A	M/100/PS/LI/RT28

3L VMV High Wattage Series 250-400W Metal Halide

For Medium and High Mounting Heights Champ® H.I.D. Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence (with Glass Refractor)
Marine (with Globe or Glass Refractor) & Wet Locations 3, 3R, 4, 4X; IP56 to IP66

To complete the catalog #, include information in notes 1 and 2 below. For guards and other optics see VMV High Wattage Series - Ordering By Components page.

by components page.					BASIC CATALOG NUME	BER
	Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor *	With GRD4 Reflector/Lens
	Pendant Mount (Rigid or Flexible)	3/ ₄ 1 3/ ₄ 1	250 400	VMVM2A250GP VMVM3A250GP N/A N/A	VMVM2A250GR305 VMVM3A250GR305 VMVM2A400GR305 VMVM3A400GR305	VMVM2A250GRD4 VMVM3A250GRD4 VMVM2A400GRD4 VMVM3A400GRD4
	Ceiling Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1	250 400	VMVM2C250GP VMVM3C250GP N/A N/A	VMVM2C250GR305 VMVM3C250GR305 VMVM2C400GR305 VMVM3C400GR305	VMVM2C250GRD4 VMVM3C250GRD4 VMVM2C400GRD4 VMVM3C400GRD4
	Wall Mount Thru-Feed	3/ ₄ 1 3/ ₄ 1	250 400	VMVM2TW250GP VMVM3TW250GP N/A N/A	VMVM2TW250GR305 VMVM3TW250GR305 VMVM2TW400GR305 VMVM3TW400GR305	
	Quad-Mount Pendant, Adjustable Thru-Feed, 25° Angle, 121/2° Angle	3/ ₄ 3/ ₄	250 400	VMVM25Q250GP N/A	VMVM25Q250GR305 VMVM25Q400GR305	VMVM25Q250GRD4 VMVM25Q400GRD4
	Stanchion Mount 25° Angle	11/2	250	VMVMJ250GP	VMVMJ250GR305	VMVMJ250GRD4
		11/2	400	N/A	VMVMJ400GR305	VMVMJ400GRD4
	Stanchion Mount Straight	1½ 1½	250 400	VMVMP250GP N/A	VMVMP250GR305 VMVMP400GR305	

^{*} For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. VMVM2A250GR302 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. VMVM2A250GR303

Add voltage suffix to end of catalog number Standard Vallage Ballagte - COLIT

Standard Voltage Ballasts - 60Hz

		NEC/UL		CEC/CS	SA (cUL)		
Voltage	Multi Tap	120V	480V	Tri Tap	120V		
Suffix	/MT	/120	/480	/TT	/120		
Optional Voltage Balla	sts - 50 or 60Hz						
	CEC/CSA	(cUL) - CWI Isolate	d Ballasts		EXP	ORT	
Voltage	208V CWI	240V CWI	600V CWI	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz
Suffix	/208CWI	/240CWI	/600CWI	/220	/220 50	/230 50	/240 50

^{2.} Options - Add the required option suffixes, see page 989, in alpha-numeric order.

VMV High Wattage Series – Ordering by Components

VMV High Wattage Luminaires are available in components.

A complete luminaire consists of:

- I. Champ Cover (Mounting Module)
- II. VMV Ballast Housing Include voltage and required option(s)
- III. Optical & Guard Components Globe, Reflector, Refractor, Guard

I. Champ Cover (Mounting Module):

Туре	Conduit	Cat. #	
Pendant	³/₄" 1"	APM2 APM3	
Ceiling	3/ ₄ " 1"	CM2 CM3	
Wall	³/₄" 1"	TWM2 TWM3	
Stanchion – 25 Degree Angle	11/2"	JM5	
Stanchion – Straight	11/2"	PM5	
Quad-Mount	3/4"	QM25	

II. Ballast Housings:

Complete catalog number must have the voltage suffix (MT shown) and any options suffixes.

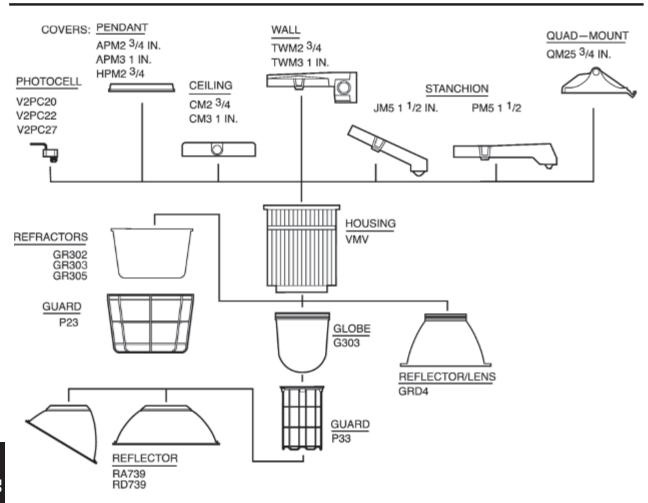
Lamp Type	Lamp Watts	Cat. #
High Pressure Sodium	200	VMVS200/MT
	250	VMVS250/MT
	400	VMVS400/MT
Metal Halide	250	VMVM250/MT
	400	VMVM400/MT

III. Globe, Reflectors, Refractors, Guards:

Туре	Cat. #
Globe	G303
Globe Guard	P33
Reflector – Dome	RD739
Reflector – Angle	RA739
Refractor – Type 2	GR302
Refractor – Type 3	GR303
Refractor – Type 5	GR305
Refractor Guard	P23
High Bay Reflector/Lens	GRD4

3L VMV High Wattage Series

Champ® H.I.D. Luminaires



Champ® H.I.D. Luminaires

VMV High Wattage Series

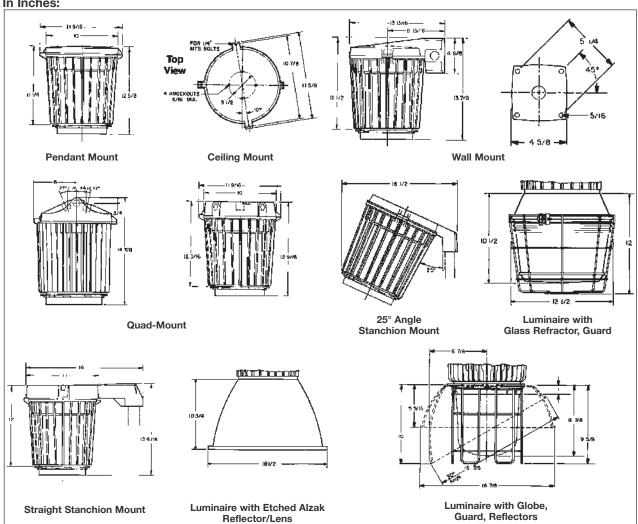
Lamp Watts				(Clas Gas/Va			Class II (Dust) and Class III	Pres Gas and Du	aneous sence ust Present in me Area	Supply Wire Temp C
				Non estricte reathin		Brea	ricted		Non Restricted Breathing	Restricted Breathing	
				tandar		Op	nR tion 6(TB)	Standard Product	Standard Product	Option S826	
			Di	ivision	2		9 2 or sion 2	Standard Product	Class I, Division 2 and Class II	Class I, Zone 2 or Division 2 and Class II	,
		G303	х	- 1	-	х	-	_	-	_	
		GR305	-	Х	-	-	х	X	х	х	
		GRD4] [-	-	Х	-	_	_	_	_	
oo	Pressure 40 55 65	Soaiu	325 C 325 C 325 C	350 C 350 C 350 C	T2 T2	T3 T3 T3	T4 T4 –	T3C - -	T1/T3C - -	T3C - -	75 75 85
50	40 55 65		350 C 350 C	350 C 350 C		T3 T3 T3	T4 T4 –	T3C - -	T1/T3C - -	T3C - -	75 85 –
.00	40 55			350 C 350 C		T3 T3	T4 T4	T3C -	T1/T3C -	T3C -	85 90
Metal	Halide										
00	40 55				350 C 350 C	T3 T3	T4 T4	T3B -	350 C/T3B -	T3B -	85 90
	40				350 C 350 C	T3 T3	T4 T4	T3B -	350 C/T3B -	T3B -	85 90
50	40 55		350 C	330 0	000 0						90
			350 C - -	325 C 350 C	T1	-	T4 -	T3B -	350 C/T3B -	T3B -	85 -
250 400 Pulse	55 40 55 Start Me	etal Ha	ilide (325 C 350 C	T1 T1	-	-	_		<u>-</u>	85 -
.00	55 40 55	etal Ha	- lide (350 C	325 C 350 C \$828 350 C	T1 T1						85
oo Pulse	55 40 55 Start Me	etal Ha	- lide (350 C	325 C 350 C \$828 350 C 350 C	T1 T1 3)	- Т3	- Т4	Т3В	350 C/T3B	Т3В	85 - 85

VMV High Wattage Series 3L

Champ® H.I.D. Luminaires

Dimensions





Net Luminaire Weights (lbs.):

Luminaire with:					
Luminaire Series	Lamp Watts	Globe, Guard (lbs.)	Reflector/ Lens	Glass Refractor (lbs.)	
VMVS	200 250	29 ¹ / ₂ 29 ¹ / ₂	30 30	32½ 32½	
	400	381/2	39	411/2	
VMVM	250 400	321/2	33 34	35 ³ / ₄ 35 ¹ / ₂	

Туре	Lbs.	Туре	Lbs.				
Add for mounting modules:							
Pendant	11/4	Quad-Mount	31/2				
Ceiling	23/4	Angle Stanchion	31/2				
Wall	41/2	Straight Stanchion	41/2				
Add for refle	ectors:						
Dome	11/2	30° Angle	11/2				
High Bay	13/4						
Doducti 11/	lb for lumin	aira without DOO Cuard					

Deduct: 11/2 lb. for luminaire without P33 Guard

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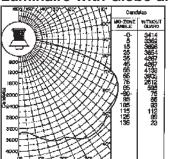
Champ® H.I.D. Luminaires

Lamp: 250W/E-18 high pressure sodium (HPS)

Total bare lamp lumens: 27500

Note: All data provided is for high pressure sodium luminaires with 250W/E–18 clear lamps. Use conversion factors (multipliers) shown below for other clear lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any *Champ* series luminaire.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

Luminaire Series	Lamp Watts	Con- version Factor
VMVS	200	0.80
VIVIVS	400	1.82

Luminaire spacing ratio: 2.0

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

	Reflectance		Cavity F	Ratio					
Eff. Ceil.	Wall	1	2	3	4	5			
	50	.750	.640	.550	.476	.416			
80	30	.711	.582	.482	.402	.341			
	10	.677	.532	.429	.346	.285			
	50	.732	.625	.538	.465	.405			
70	30	.696	.570	.474	.397	.335			
	10	.664	.526	.424	.343	.282			
	50	.695	.594	.513	.443	.388			
50	30	.666	.549	.458	.384	.326			
	10	.641	.509	.414	.336	.279			
	50	.663	.567	.490	.423	.371			
30	30	.640	.530	.443	.372	.316			
	10	.618	.496	.405	.330	.273			
	50	.635	.542	.469	.405	.355			
10	30	.615	.510	.429	.360	.307			
	10	.597	.483	.395	.323	.268			
0	0	.580	.464	.377	.305	.251			
% Reflectar	nce	Room	Room Cavity Ratio						
Eff. Ceil.	Wall	6	7	8	9	10			
	50	.369	.327	.290	.263	.229			
80	30	.295	.255	.222	.196	.163			
	10	.243	.208	.173	.150	.121			
	50	.360	.320	.285	.258	.224			
70									
	30	.291	.251	.219	.193	.163			
70	30 10	.291 .239	.251 .204						
				.219	.193	.163			
	10	.239	.204	.219 .172	.193 .149	.163 .121			
50	10 50	.239	.204	.219 .172	.193 .149	.163 .121			
	10 50 30	.239 .344 .283	.204 .306 .243	.219 .172 .272 .213	.193 .149 .247 .189	.163 .121 .216 .159			
	10 50 30 10	.239 .344 .283 .236	.204 .306 .243 .200	.219 .172 .272 .213 .170 .262 .207	.193 .149 .247 .189 .147	.163 .121 .216 .159 .119			
50	50 30 10 50	.239 .344 .283 .236	.204 .306 .243 .200	.219 .172 .272 .213 .170	.193 .149 .247 .189 .147	.163 .121 .216 .159 .119			
50	10 50 30 10 50 30	.239 .344 .283 .236 .330 .275	.204 .306 .243 .200 .292 .238	.219 .172 .272 .213 .170 .262 .207	.193 .149 .247 .189 .147 .238 .183	.163 .121 .216 .159 .119 .207 .154			
50	50 30 10 50 30 10	.239 .344 .283 .236 .330 .275 .233	.204 .306 .243 .200 .292 .238 .196	.219 .172 .272 .213 .170 .262 .207 .167	.193 .149 .247 .189 .147 .238 .183 .145	.163 .121 .216 .159 .119 .207 .154 .116			
30	10 50 30 10 50 30 10	.239 .344 .283 .236 .330 .275 .233	.204 .306 .243 .200 .292 .238 .196	.219 .172 .272 .213 .170 .262 .207 .167	.193 .149 .247 .189 .147 .238 .183 .145	.163 .121 .216 .159 .119 .207 .154 .116			
30	10 50 30 10 50 30 10 50 30	.239 .344 .283 .236 .330 .275 .233 .317 .267	.204 .306 .243 .200 .292 .238 .196 .282 .233	.219 .172 .272 .213 .170 .262 .207 .167 .251 .202	.193 .149 .247 .189 .147 .238 .183 .145 .229 .179	.163 .121 .216 .159 .119 .207 .154 .116 .200 .150			

3L Luminaires with Induction Lighting System

VMVIG and DMVIG Series

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, Group IIC Restricted Breathing Suffix S826 for Cl. I, Div. 2 & Zone 2 Enclosure Type 4X, IP66
Wet Locations
Marine Locations
UL and cUL Listed

Get uninterrupted light for up to 11 years, without changing a lamp.

Eaton's Crouse-Hinds Champ Luminaire with Induction Light Source delivers up to 100,000 hours of white light in a hazardous location, corrosion-resistant watertight package. That's 5 to 8 times the typical life of conventional fluorescent or HID lamps. And, with no maintenance required for up to 11 years, you'll reduce your maintenance and lamp replacement costs.

Compelling reasons to choose the new Champ Induction Luminaire as the light source for industrial and hazardous locations include:

- Crisp, white light (80+ color rendering index) provides increased safety by clearly illuminating signs, instrument panels, equipment and more with vibrant natural colors.
- Up to 100,000 hours of lamp life minimizes routine maintenance costs. If you operate this luminaire for 24 hours, 7 days a week, you will not need to change the lamp for up to 11 years!
- Instant illumination no waiting for lamp warm-up time. Increases productivity and safety.
- Delivers the best possible luminaire temperature rating T6
 (85°C) when used with the Champ restricted breathing option.
 Ideal for hazardous areas where a low ignition temperature is required.
- Starts in low temperatures as low as -40°C.

Additional Features and Benefits:

The Champ Induction Luminaire is suitable for Class I, Division 2 and Zone 2 areas with the assurance of Eaton's Crouse-Hinds quality and reliability. They are ideal for use in hard-to-reach applications and where process requirements demand continuous luminaire operation.

Features:

- High lumens per watts (72 lpw for the 165W Champ) will save energy
- Retains strong light output (retains more than 70% output) throughout the life of the lamp
- Will not add electrical noise to the circuits Total Harmonic Distortion is less than 10%
- Excellent power factor of .96 increases useable watts to an excellent level and reduces energy consumption
- Internal electronics are enclosed to ensure that there is no interference with external instrumentation





165W Champ Induction provides as much light as a 175W Metal Halide but lasts 7 times longer!

31

Luminaires with Induction Lighting System

VMVIG and DMVIG Series with Lamps Included

CI. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, Group IIC Restricted Breathing Suffix S826 for CI. I, Div. 2 & Zone 2 Enclosure Type 4X, IP66
Wet Locations
Marine Locations
UL and cUL Listed

Applications:

Champ Induction Luminaires are ideal:

- Where an extra long life lamp source (up to 100,000 hours) is required.
- In areas that require lamps to reach full illumination immediately.
- Where cool temperature ratings on the luminaire globe are needed to ensure safe operation in hazardous areas.
- In hard-to-reach applications where relamping is costly.
- Where luminaire maintenance is difficult due to continuous process operation requirements that restrict or prohibit shut down except in emergency situations.
- To provide a cost-effective lighting system (low installed/life cost) by minimizing or even eliminating routine luminaire maintenance.
- In cold environment applications.

Certifications and Compliances:

• NEC & CEC:

Class I, Division 2 and Zone 2

Class I, Division 2, Groups A, B, C, D

Class I, Zone 2, Group IIC

- Restricted Breathing Suffix S826 for Class I, Division 2 and Zone 2
- Marine Locations, Wet Locations, Enclosure Type 3, 3R, 4, 4X; IP66
- UL and cUL Listed / ETL
- UL Standards: 844, 60079-15, 1598, 1598A
- CSA Standards: C22.2 No.137, E79 Series

Compliances and approvals for the lamp system

• RFI < 30 MHz EN 55015 • RFI > 30 MHz EN 55022 Harmonics FN 61000-3-2 Immunity EN 61547 EN 61347-2-3 & UL935 Safety EN 60928 EN 60929 • Performance IEC 68-2-6-Fc · Vibration & bump tests IEC 68-2-29-Eb

Quality standards
 Environmental standard
 IEC 68-2-29
 ISO 9001
 ISO 14001

Standard Materials:

- Ballast housings and mountings copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware stainless steel
- Reflectors (dome and angle) Krydon fiberglass-reinforced polyester material
- Globes heat and impact-resistant internally fluted glass
- Guards copper-free aluminum (55W), stainless steel (85W)

Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Krydon® material high reflectance white
- Stainless steel natural

Options:

Description	Suffix
Restricted Breathing Construction	S826
Class I, Division 2 & Zone 2 suitability	
Cooler operating temperatures (T-Codes)	
Corrected color temperature lamp - 4000K	S887

Accessories:

Mounting Modules	Cat. #
3/4 NPT Pendant	APM2
1 NPT Pendant	APM3
3/4 NPT Flexible Pendant	HPM2
3/4 NPT Ceiling Mount	CM2
1 NPT Ceiling Mount	CM3
3/4 NPT Wall Mount	TWM2
1 NPT Wall Mount	TWM3
3/4 NPT Quad Mount	QM25
1½ NPT Stanchion Mount — 25 Degree Angle	JM5
1½ NPT Stanchion Mount — Straight	PM5

Wattage	Dome Reflector Cat. #	Angle Reflector Cat. #
55W	RD70	RA70
85W	RD739	RA739
165W	RD739	RA739

Dimensions:

See Section 3L for dimensional information on VMV and DMV Series.

Amperage:

Power consumption for specific voltages

55W Luminaires

a. 120VAC x .460mA = 55.70 watts b. 230VAC x .260mA = 59.80 watts

85W Luminaires

c. $120VAC \times .710mA = 85.20$ watts d. $230VAC \times .400mA = 92.00$ watts

165W Luminaires

e. 120VAC x 1.35 = 162.00 watts f. 230VAC x .700mA = 161.00 watts

3

3L Luminaires with Induction Lighting System

VMVIG and DMVIG Series

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, Group IIC Restricted Breathing Suffix S826 for Cl. I, Div. 2 & Zone 2 Enclosure Type 4X, IP66 Wet Locations Marine Locations UL and cUL Listed

Lamp Data:

	Svstem	Lume	Lumen (LM)		(LM/W)	Color Rendering	Lumen Maintenance
	Power (W)	Initial	Mean	Initial	Mean	Index*	After 60,000 Hrs (%)
VMV	55	3500	2800	65	51	80	75
DMV	85	6000	4800	70	57	80	75
DMV	165	12000	9600	72	58	80	70

^{*}Lamp sources with 80+ CRI provide excellent color rendering. CRI scale is 0–100 with 100 considered as ideal.

Temperature Performance Data:

Cat. #	Watts	Ambient Temp. °C	Supply Wire Temp. °C	Class I, Div. 2 Temp. Rating	Class II, Div. 1, Class III Temp. Rating	Simultaneous Presence Class I, Div. 2	Restricted Breathing (Suffix S826) Aex nR IIC, Ex nR IIC Class I, Div. 2/Zone 2
VMVIG055	55	40	60	T2C	_	_	T6
VMVIG055	55	55	75	T2C	_	-	T5
DMVIG085	85	40	60	T3	T5	T2D	T6
DMVIG085	85	55	75	T2D	T4A	-	T5
DMVIG165	165	40	75	T3	-	-	T5

Champ Induction DMV 85 watt is now Class II, Div. 1 – suitable for dust environments.

Ordering Information:

To complete Catalog Number, add Voltage and Option suffix(es).

Mounting Style	Hub Size (Inches)	55W Induction Catalog Number (With G24 Globe & P21 Guard)	85W Induction Catalog Number (With G303 Globe & P33 Guard)	165W Induction Catalog Number (With G303 Globe & P33 Guard)
Pendant	³ / ₄ 1	VMVIG2A055GP VMVIG3A055GP	DMVIG2A085GP DMVIG3A085GP	DMVIG2A165GP DMVIG3A165GP
Flexible Pendant	3/4	VMVIG2HA055GP	DMVIG2HA085GP	DMVIG2HA165GP
Ceiling Mount	³ / ₄ 1	VMVIG2C055GP VMVIG3C055GP	DMVIG2C085GP DMVIG3C085GP	DMVIG2C165GP DMVIG3C165GP
Wall Mount	³/ ₄ 1	VMVIG2TW055GP VMVIG3TW055GP	DMVIG2TW085GP DMVIG3TW085GP	DMVIG2TW165GP DMVIG3TW165GP
Quad Mount	3/4	VMVIG25Q055GP	DMVIG25Q085GP	DMVIG25Q165GP
Stanchion Mount 25° Angle	11/2	VMVIGJ055GP	DMVIGJ085GP	DMVIGJ165GP
Stanchion Mount Straight	11/2	VMVIGP055GP	DMVIGP085GP	DMVIGP165GP
Luminaire with Globe and Guard less Mounting Module	_	VMVIG055GP	DMVIG085GP	DMVIG165GP

Add the voltage suffix to the above catalog number. Ex. - DMVIG2A085GP/120 $\,$

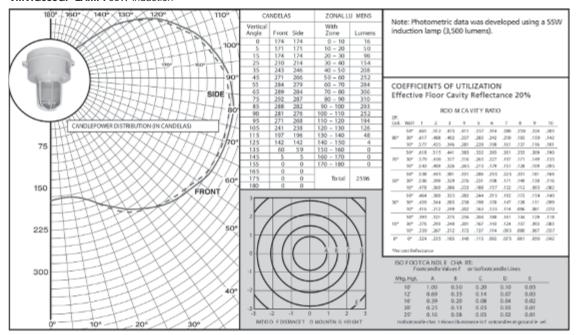
Standard Voltage	Suffix	Range
120V, 50 / 60 Hz	/120	Operative range of 108–132 VAC
200V–277V, 50 / 60 Hz	/200 277	Operates on 208, 220, 230, 240, 277 VAC

Luminaires with Induction Lighting System

VMVIG and DMVIG Series

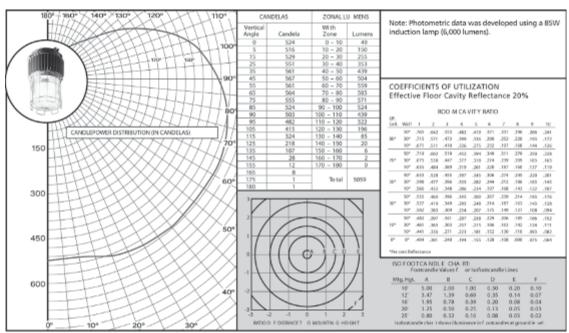
55 Watt Induction

Luminaire With Globe And Guard VMVIG055GP LAMP: 55W Induction



85 Watt Induction

Luminaire With Globe And Guard
DMVIG085GP LAMP: 85W Induction



Photometric Data: For additional photometric information, see the Resources area of our website. Photometric .ies files for use with our Luxicon Lighting Layout Software are available to download.

Crouse-Hinds

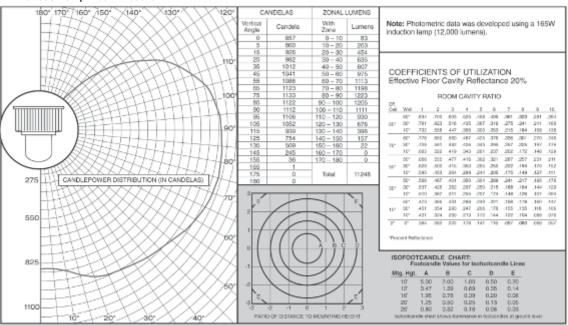
3L Luminaires with Induction Lighting System

VMVIG and DMVIG Series

165 Watt Induction

Luminaire With Globe

DMVIG165G Lamp: 165W Induction



165 Watt Induction

Luminaire With Globe And Guard

DMVIG165GP Lamp: 165W Induction

180*170*160**/150**/ 140*/ 130*/ 120*	CN	NDELAS	ZONAL	LUMENS	1
		10100		Lowers	Note: Photometric data was developed using a 165W
	Vertical Angle	Candela	Zone	Lumens	induction lamp (12,000 lumens).
	0	892	0 - 10	87	1
	- 5	901	10-20	260	1
HH40XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	15	946	20 - 30	455	1
H4//X/XXXX/X/X/X/	25	984	30-40	619	
	35	985	40 - 50	773	
	45	998	50-60	928	1
Was a state of the	55	1034	60 - 70	1061	COEFFICIENTS OF UTILIZATION
× × × × × × × × × × × × × × × × × × ×	65	1068	70 - 80	1143	Effective Floor Cavity Reflectance 20%
	75	1083	80 - 90	11.71	Effective Flour Cavity Reflectance 2016
	85	1075	90 - 100	1147	COOLICA METHOD TO
	90	10.62	100 - 1 10	1046	ROOM CA VITYRA TIO
901	95	1055	110 - 120	868	SW. Well 1 2 8 4 3 4 7 8 8 10
	10.5	991	120 - 130	626	59* 288 628 578 534 490 380 347 311 279 254
	11.5	877	130 - 140	367	go 10° 247 AM AM AM AM AM 301 301 312 304 103
	125	698	140 - 150	151	19* 201 534 429 352 289 240 280 378 353 304
	13.5	472	150 - 160	28	59° 245 825 337 A66 A06 361 323 289 260 257
	14.5	236	160 - 170	4	70 30 50 50 50 50 50 50 50 50 50 50 50 50 50
	15.5	51	170 = 180	0	19* £55 .501 .402 .300 .371 .238 .395 .367 .340 .325
275 HHY (XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	16.5	15			59* 639 550 459 400 549 509 277 248 224 304
	17.5	2	TOT AL	10 743	Mr. 30* 665 481 398 338 385 246 215 388 365 317
CANDLEPOWER DISTRIBUTION (IN CANDELAS)	18-0	2			10* 571 435 350 300 236 309 360 345 314 300
HTURVXXVXX///m					59* 544 458 307 337 283 281 234 210 369 373
	- 7				gp 39° 516 409 340 287 242 269 383 380 340 323
	,E		_	E	202. 481. 251. 441. 051. 102. THE 003. DTL. 108. *01
HTUYVXXXXXX/X////	2		_ \		59* 465 373 336 379 340 215 393 374 356 340
550H+T1J2\XXXX\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	/		_ \)	\	10° 39° 405 340 280 289 281 375 352 330 376 304
H+111/1/XXX/X/X///601	L.I. /		\sim	\	10* 316 314 312 327 186 341 320 302 387 316
	, 17		///		gr 0° 372 274 316 174 136 114 096 868 865 857
			À 8 c	ò	*Percent Reflectance
	- 1		$J \cup J \cup I$		PARAMETER STATE
		\mathcal{M}	ノリル	/	ISOFOOTCANDLE CHNRT : Footcandle Values for kofootcandle Lines
825			//		Mig. Hot. A B C D E
X X / 86°				/	
	-2		-1		10' 5.00 2.00 1.00 0.50 0.20 12' 3.47 1.39 0.09 0.35 0.14
	N.			-4	12' 3.47 1.39 0.99 0.35 0.14 16' 1.95 0.78 0.39 0.30 0.08
	, E			/ ^E	20' 1.25 0.50 0.25 0.15 0.05
	- 1	2 -1 0	1 2	3	29' 0.80 0.32 0.16 0.08 0.03
1100 10° 20° 40°	8,070	OF DEST. ANCET O	MOUNTING HER	THE	Sofoncarde that shows illuminate in frotranties at groundlesel.
1100 10° 20° 30° 40°	30010	OF DESCRIPTION OF THE	, new contribution in co	ur 11	and the same of th

Photometric Data: For additional photometric information, see the Resources area of our website. Photometric .ies files for use with our Luxicon Lighting Layout Software are available to download.

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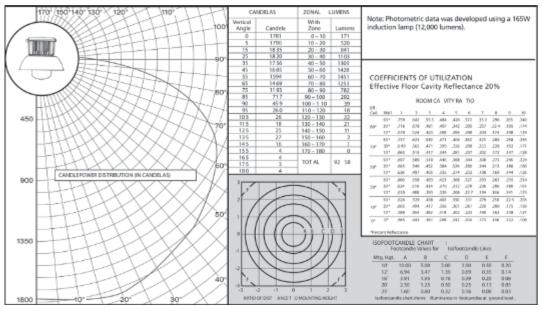
Luminaires with Induction Lighting System

VMVIG and DMVIG Series

165 Watt Induction

Luminaire With Globe And RD739 Dome Reflector

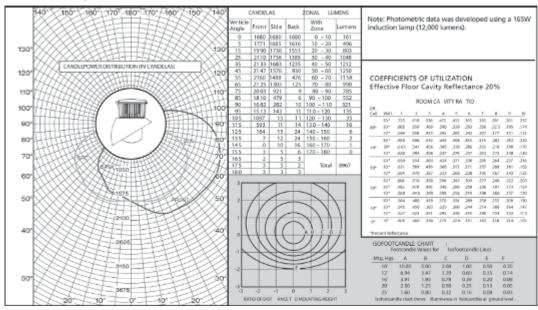
DMVIG165G Lamp: 165W linduction



165 Watt Induction

Luminaire With Globe And RA739 (30° Angle) Reflector

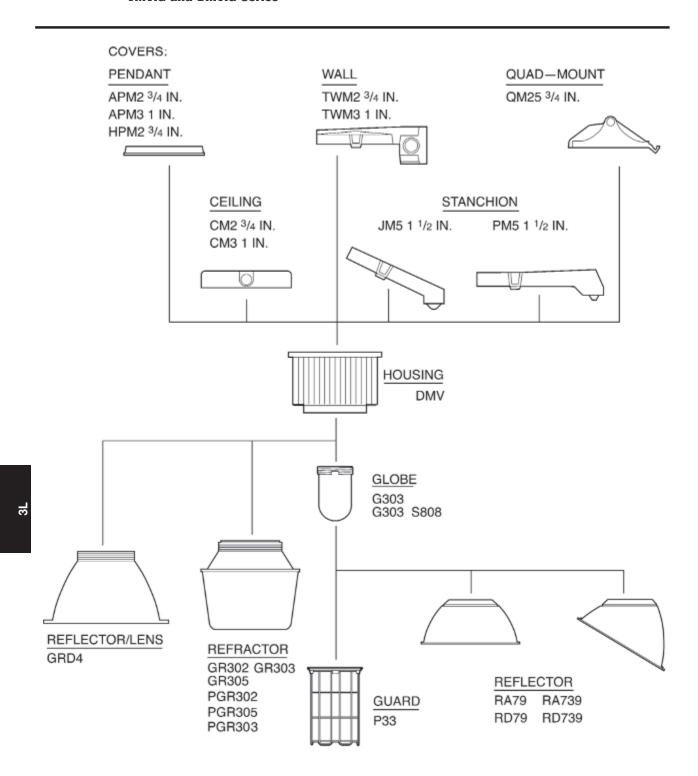
DMVIG165G Lamp: 165W Induction



Photometric Data: For additional photometric information, see the Resources area of our website. Photometric .ies files for use with our Luxicon Lighting Layout Software are available to download.

3L Luminaires with Induction Lighting System

VMVIG and DMVIG Series



3L

Suffix

BG

FA

IR

TIR

N2MV Series 50-175W Cl. I, Div. 2, Groups A, B, C, D Cl. II. Groups F. G Non-metallic

Cl. III & Simultaneous Presence (100W max)

Champ® H.I.D. Luminaires

Applications:

N2MV series Champ luminaires are used:

- · In areas in which ignitable concentrations of flammable gases or vapors will be present due to abnormal, unusual or accidental conditions.
- . In installations where moisture, dirt. vibration, corrosion or rough usage are concerns.
- Wherever the damaging effects of water, wind, snow, sleet, hot sun or any combination of these elements are found.
- · Ideal for marine use; resists the harmful effects of salt water.
- Withstands the harshest of corrosive environments.
- To provide low wattage spot and floodlighting.
- For general area lighting.
- · In areas where the ambient temperature will get as low as 40°C (-40°F).
- · In manufacturing plants, refineries, chemical, petrochemical and other industrial process facilities, wastewater and sewage treatment facilities. offshore, dockside and harbor installations as well as other heavy industrial applications.

Features:

- · Housing and mounting modules made of polyphenylene sulfide (PPS) for strength and maximum resistance to corrosion.
- Pendant mounting module equipped with integral hub set screws for vibration resistance
- Hubs are provided with an integral bushing to help prevent damage to field wiring during installation and ground connection for positive bonding.
- · Guard, hub inserts, stanchion elbow and hardware made of stainless steel for maximum resistance to corrosion.
- · Grounding wire for safety.
- Stainless steel open bottom guard permits direct access to the globe for easy relamping.
- Hinged assembly allows the luminaire to hang free during installation to permit the use of both hands when wiring.
- One external captive screw for ease of installation.
- Handle hinge assembly doubles as a handle for ease of installation, especially when carrying up a ladder.



Certifications and **Compliances:**

NEC and CEC: Class I, Division 2, Groups A, B, C, D 100W Maximum - Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II)

• UL Standards: 844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations

CSA Standards C22.2 No. 137

Standard Materials:

- · Housing, mounting modules, component pallets - polyphenylene sulfide (PPS)
- Guard, hub inserts, stanchion elbow, hardware - stainless steel
- Globe heat tempered
- Gaskets silicone rubber

Electrical Ratings:

- 120, multi-tap/MT (120, 208, 240 and 277), Dual-Tap/DT (120, 277 volts), Tri-Tap/TT (120, 277, 347 volts) 480 volt, 600 volt. 220 / 240 volt-50 Hz
- 50-150W HPS; 70-175W MH and Pulse Start MH

Options:

Marine & Wet Locations

3. 3R. 4. 4X: IP56

The following special options are available from the factory by adding suffix to Iuminaire Cat. No.:

Description

· Wall Mount Arm. For converting ceiling mount luminaire to a

switch. Prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life. Available for use with 50-150 watt - HPS.....

 Factory Assembled. For a factory assembled luminaire with lamp installed.....

Instant Restrike. Enables a hot HPS lamp to immediately restrike after a momentary loss of arc due to voltage fluctuation or power outage. It has no effect on the warm-up period of cold lamps. 50–150W LX HPS only.....

50-100W LX HPS only..... Quartz Auxiliary Lighting. Comes to full brightness immediately and remains lit until the HID lamp attains 60-70% of full illumination. For nonhazardous locations only. (Note: QTZ lamp not included; use 100W single ended lamp -Q100DC, Q100CL/DC, or 100Q/CL/DC) Consult factory for top-hat limitations

 Fused. To protect ballast and capacitor against abnormal line conditions (Not available with /MT ballast) (Not for use in Canada) (Not suitable for marine applications) Furnished with Lamps

Teflon® Coated Globe. For additional protection against breakage. For use with 50-100W HPS, 70-175W MH and pulse start MH..... S658

QTZ

S714

S808

Accessories:

See pages 1022-1023 for complete listing.



3L N2MV Series 50-150W **High Pressure Sodium**

Non-metallic Champ® H.I.D. Luminaires Cl. I, Div. 2, Groups A, B, C, D Cl. II, Groups F, G Cl. III & Simultaneous Presence (100W max)

Marine & Wet Locations 3, 3R, 4, 4X; IP56

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see N2MV Series - Ordering By Components page.

			BASIC CATALOG NUMBER				
Mounting	Hub	Lamp	With G303 Globe and	With GR305			
Style	Size	Watts	P33 Guard	Glass Refractor *			
Pendant Mount	3/4	50	N2MVS2A050GP	N2MVS2A050GR305			
	1		N2MVS3A050GP	N2MVS3A050GR305			
	3/4	70	N2MVS2A070GP	N2MVS2A070GR305			
	1		N2MVS3A070GP	N2MVS3A070GR305			
	3/4	100	N2MVS2A100GP	N2MVS2A100GR305			
	1		N2MVS3A100GP	N2MVS3A100GR305			
	3/4	150	N2MVS2A150GP	N2MVS2A150GR305			
	1		N2MVS3A150GP	N2MVS3A150GR305			
Ceiling Mount	3/4	50	N2MVS2C050GP	N2MVS2C050GR305			
Thru-Feed	1		N2MVS3C050GP	N2MVS3C050GR305			
	3/4	70	N2MVS2C070GP	N2MVS2C070GR305			
	1		N2MVS3C070GP	N2MVS3C070GR305			
	3/4	100	N2MVS2C100GP	N2MVS2C100GR305			
	1		N2MVS3C100GP	N2MVS3C100GR305			
	3/4	150	N2MVS2C150GP	N2MVS2C150GR305			
	1		N2MVS3C150GP	N2MVS3C150GR305			
Stanchion	11/2	50	N2MVSJ050GP	N2MVSJ050GR305			
Mount	11/2	70	N2MVSJ070GP	N2MVSJ070GR305			
25° Angle	11/2	100	N2MVSJ100GP	N2MVSJ100GR305			
_	11/2	150	N2MVSJ150GP	N2MVSJ150GR305			

^{*} For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. N2MVS2A050GR302 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. N2MVS2A050GR303

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts - 60Hz

	NEC/UL				CEC/CSA (cUL)			
Voltage	Multi Tap	Dual Tap	120V	480V	Tri Tap	Dual Tap	120V	
Suffix	/MT	/DT	/120	/480	/ПТ	/DT	/120	
Optional Voltage Ballasts - 50 or 60Hz								
Optional Voltage E			MI I I - 4 1 D - 1		1	EVD	ODT	
Optional Voltage E		Hz /CSA (cUL) - C	WI Isolated Ba	llasts	ı	EXP	ORT	

 ¹⁵⁰W HPS Luminaires: For 55V lamps - add suffix LX; for 100V lamps - add suffix CE. 50W HPS luminaire is dual tap only.
 Options - Add the required option suffixes, see page 1005, in alpha-numeric order.

3L

Marine & Wet Locations

3, 3R, 4, 4X; IP56

N2MV Series 150–175W Pulse Start Metal Halide

Cl. I, Div. 2, Groups A, B, C, D Cl. II, Groups F, G Cl. III & Simultaneous Presence (100W max)

Non-metallic Champ[®] H.I.D. Luminaires

To complete the catalog #, include information in notes 1 and 2 below. For guards and other optics see N2MV Series - Ordering By Components page.

	Hub Size		BASIC (CATALOG NUMBER
Mounting Style			With G303 Globe and P33 Guard *	With GR305-S828 Glass Refractor
Pendant Mount	3/4	150	N2MVM2A150GP S828	N2MVM2A150GR305 S828
	1		N2MVM3A150GP S828	N2MVM3A150GR305 S828
	3/4	175	N2MVM2A175GP S828	N2MVM2A175GR305 S828
	1		N2MVM3A175GP S828	N2MVM3A175GR305 S828
Ceiling Mount Thru-Feed	³ / ₄	150	N2MVM2C150GP S828 N2MVM3C150GP S828	N2MVM2C150GR305 S828 N2MVM3C150GR305 S828
	3/4	175	N2MVM2C175GP S828	N2MVM2C175GR305 S828
	1		N2MVM3C175GP S828	N2MVM3C175GR305 S828
Stanchion Mount	11/2	150	N2MVMJ150GP S828	N2MVMJ150GR305 S828
25° Angle	11/2	175	N2MVMJ175GP S828	N2MVMJ175GR305 S828

^{*} For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. N2MVM2A150GR302-S828 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. N2MVM2A150GR303-S828

1. Add voltage suffix to end of catalog number

Standard Voltage Ballasts – 60Hz

		NEC/UL		CEC/CSA (cl	UL)
Voltage Suffix Optional Voltage Bal	Multi Tap /MT lasts - 50 or 60Hz	120V /120	480V /480	Tri Tap /TT	120V /120
,		EXI	PORT		
Voltage	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz	

^{2.} Options - Add the required option suffixes, see page 1005, in alpha-numeric orde

3L N2MV Series 70-175W **Metal Halide**

Non-metallic Champ® H.I.D. Luminaires Cl. I, Div. 2, Groups A, B, C, D Cl. II, Groups F, G Cl. III & Simultaneous Presence (100W max)

Marine & Wet Locations 3, 3R, 4, 4X; IP56

To complete the catalog #, include information in notes 1, 2 and 3 below. For guards and other optics see N2MV Series - Ordering By Components page.

BASIC CATALOG NUMBER

Mounting Style	Hub Size	Lamp Watts	With G303 Globe and P33 Guard	With GR305 Glass Refractor *
Pendant Mount	3/4	70	N2MVM2A070GP	N2MVM2A070GR305
	1		N2MVM3A070GP	N2MVM3A070GR305
	3/4	100	N2MVM2A100GP	N2MVM2A100GR305
	1		N2MVM3A100GP	N2MVM3A100GR305
	3/4	175	N2MVM2A175GP	N2MVM2A175GR305
	1		N2MVM3A175GP	N2MVM3A175GR305
Ceiling Mount	3/4	70	N2MVM2C070GP	N2MVM2C070GR305
Thru-Feed	1		N2MVM3C070GP	N2MVM3C070GR305
	3/4	100	N2MVM2C100GP	N2MVM2C100GR305
	1		N2MVM3C100GP	N2MVM3C100GR305
	3/4	175	N2MVM2C175GP	N2MVM2C175GR305
	1		N2MVM3C175GP	N2MVM3C175GR305
Stanchion	11/2	70	N2MVMJ070GP	N2MVMJ070GR305
Mount	11/2	100	N2MVMJ100GP	N2MVMJ100GR305
25° Angle	11/2	175	N2MVMJ175GP	N2MVMJ175GR305

^{*} For GR302 Type II Refractor, change "GR305" at end of catalog number to "GR302". Ex. N2MVM2A070GR302 For GR303 Type III Refractor, change "GR305" at end of catalog number to "GR303". Ex. N2MVM2A070GR303

Add voltage suffix to end of catalog number Standard Voltage Ballasts – 60Hz

		NEC/UL		CEC/CS	SA (cUL)		
Voltage Suffix	Multi Tap /MT	120V /120	480V /480	Tri Tap /TT	120V /120		
Optional Voltage Ba		(cUL) - CWI Isolate	d Ballasts	1	EXPORT		
Voltage Suffix	208V CWI /208CWI	240V CWI /240CWI	600V CWI /600CWI	220V 60Hz /220	220V 50Hz /220 50	230V 50Hz /230 50	240V 50Hz /240 50
				1			

ਲ

 ⁷⁰W ballast not available in 480V.
 Options - Add the required option suffixes, see page 1005, in alpha-numeric order.

N2MV Series – Ordering by Components

N2MV luminaires are available in components.

A complete luminaire consists of:

- I. N2MV Cover (Mounting Module)
- II. N2MV Ballast Housing Include voltage and required option(s)
- III. Globe, Refractor, Guard, Reflector

I. N2MV Cover (Mounting Module):

Туре	Conduit	Cat. #
Pendant	3/4"	N2APM2
	1"	N2APM3
Ceiling	3/4"	N2CM2
	1"	N2CM3
Wall (Use wall bracket accessory with	3/4"	N2MV WM1 and N2CM2
Ceiling Cover)	1"	N2MV WM1 and N2CM3
Stanchion – 25 Degree Angle	11/2"	N2JM5

II. Ballast Housings:

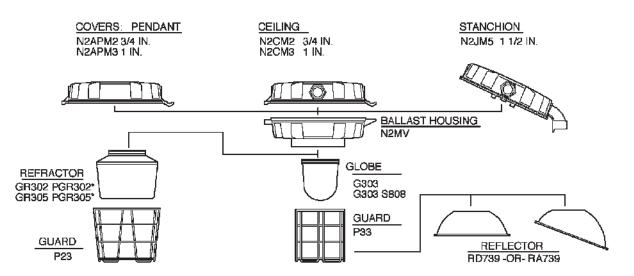
Complete catalog number must have the **voltage suffix** (MT shown) and any **options suffixes.**Lamp

Lamp Type	Watts	Cat. #
High Pressure Sodium	50 70 100 150	N2MVS050/MT N2MVS070/MT N2MVS100/MT N2MVS150/MT LX
Metal Halide	70 100 175	N2MVM070/MT N2MVM100/MT N2MVM175/MT

III. Globe, Refractors, Guards and Reflectors:

Туре	Cat. #
Globe	G303
Globe Teflon Coated	G303S808
Globe Guard	P33
Reflector – Dome	RD739
Reflector – Angle	RA739
Refractor – Type 2	GR302
Refractor – Type 3	GR303
Refractor – Type 5	GR305
Refractor Guard	P23
Large Plastic Refractor Type 2	PGR302
Large Plastic Refractor Type 3	PGR303
Large Plastic Refractor Type 5	PGR305

Champ® H.I.D Luminaires



*Plastic refractors are non-hazardous areas only (50-100W Max.)

Champ® H.I.D Luminaires

Lamp Watts	Ambient Temp C	G303 GR305	Class I (Gas/Vapors) Non Restricted Breathing Standard Product Division 2	Class II (Dust) and Class III Standard Product X X	Simultaneous Presence Gas and Dust Present i the Same Area Non Restricted Breathing Standard Product Class I, Division 2 and Class II X X	Supply Wire Temp C	
_	sure Sodiu)		3A	T4A	T2C/T4A	75
50	55 65			3A -	-	_ _	85 -
70	40 55 65	5	T	3A 3A -	T4A _ _	T2C/T4A - -	75 85 -
100	40 55 65	5	T	2D 2C -	T4A - -	T2C/T4A - -	85 100 –
150	40 55 65	5		2C - -	- -	-	85 - -
/letal Hali	de						
70	40 55 65	5	T	3C 3B -	T4 - -	T2B/T4 - -	75 85 –
	40			2B 2B	T4 _	T2B/T4 -	85 -
100	65			_	_	_	_

T2

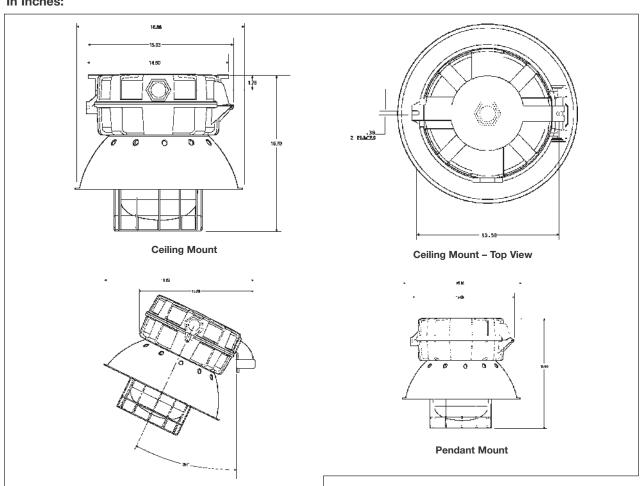
175

(Includes S828) 40 55 65

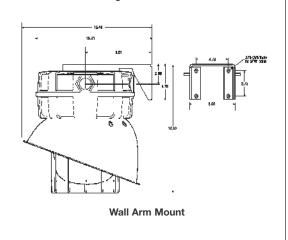
3L N2MV Series

Champ® H.I.D. Luminaires

Dimensions In Inches:



25° Angle Stanchion Mount



Net Luminaire Weights (lbs.):

Add: 51/2 lbs. for luminaire with GR305 refractor.

Luminaire Series	Lamp Watts	Luminaire with Globe, Guard (lbs.)	Lamp Watts	Luminaire with Globe, Guard (lbs.)
N2VMS	50 100	23 24 ¹ / ₁₆	70 150	23 ¹ / ₁₆ 26 ¹ / ₈
N2MVM	70 175	21 22 ¹ / ₄	100 250	21 ¹ / ₁₆ 24

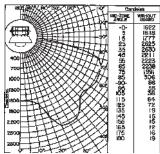
Туре	Lbs.	Туре	Lbs.
Add for mounting mo			
Pendant	11/4	Flexible Pendant	11/2
Ceiling	23/4	Wall	41/2
Quad-Mount	31/2	Angle Stanchion	31/2
Straight Stanchion	41/2		
Add for reflectors:			
Dome	11/4	30° Angle	13/4
Deduct: 1 lb. for lumina	aire withou	t P33 Guard.	

Champ® H.I.D Luminaires

Lamp: 150W/E-23-1/2 clear high pressure sodium (HPS) Total bare lamp lumens: 16000

All data provided is for high pressure sodium luminaires with 150W/E-23-1/2 clear lamps. Use conversion factors (multipliers) shown below for other clear lamp types and wattages. Consult Eaton's Crouse-Hinds for additional photometric data on any Champ series luminiares.

Luminaire with Globe and Dome Reflector



Multipliers (for use with candela curve only).

Luminaire Series	Lamp Watts	Con- version Factor
N2MVS	50 70 100	0.25 0.40 0.59

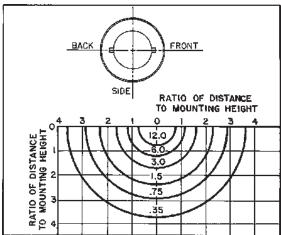
Luminaire spacing ratio: 1.90

Coefficient of Utilization

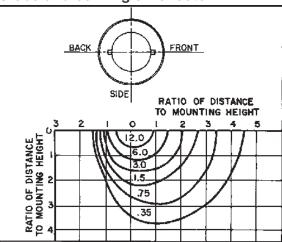
Effective Floor Cavity Reflectance 20%

% Reflectance	e Wall	Room 1	Cavity R	atio 3	4	5
80	50 30 10	.759 .719 .683	.643 .582 .530	.551 .480 .424	.476 .400 .342	.418 .340 .283
70	50 30 10	.740 .703 .669	.627 .570 .523	.538 .471 .418	.465 .394 .338	.406 .334 .280
50	50 30 10	.703 .672 .645	.595 .548 .506	.512 .455 .408	.442 .381 .332	.388 .324 .276
30	50 30 10	.669 .646 .622	.567 .528 .492	.488 .439 .399	.422 .368 .325	.370 .314 .270
10	50 30 10	.640 .619 .600	.541 .508 .479	.466 .424 .389	.403 .356 .318	.354 .305 .265
0	0	.582	.459	.370	.299	.247
% Reflectanc	e Wall	Room 6	Cavity R	atio 8	9	10
					9 .267 .198 .151	.231 .164 .121
Eff. Ceil.	Wall 50 30	.371 .296	.330 .257	.294 .224	.267 .198	.231 .164
Eff. Ceil.	Wall 50 30 10 50 30	.371 .296 .243 .362 .291	330 .257 .208 .323 .252	.294 .224 .174 .288 .221	.267 .198 .151 .262 .195	.231 .164 .121 .226 .164
80 70	50 30 10 50 30 10 50 30 10 50 30	.371 .296 .243 .362 .291 .238 .345 .283	7 .330 .257 .208 .323 .252 .204 .309 .244	8 .294 .224 .174 .288 .221 .173 .275 .215	.267 .198 .151 .262 .195 .151 .250	.231 .164 .121 .226 .164 .121 .218 .159
80 70 50	50 30 10 50 30 10 50 30 10 50 30 10	.371 .296 .243 .362 .291 .238 .345 .283 .235	330 .257 .208 .323 .252 .204 .309 .244 .201 .294 .239	8 .294 .224 .174 .288 .221 .173 .275 .215 .170	.267 .198 .151 .262 .195 .151 .250 .190 .148	.231 .164 .121 .226 .164 .121 .218 .159 .119

Isofootcandle Chart: Luminaire with Globe and Dome Reflector



Isofootcandle Chart: Luminaire with Globe and 30° Angle Reflector



Isofootcandle charts show illumination in footcandles on work plane 10 feet below light center. Multiply by factor shown to convert to other mounting heights.

Height (Ft.)	Factor	Height (Ft.)	Factor
8	1.56	16	.391
12	.694	20	.250
14	.510		

NVMV Series 70-400W Ex-Protected Luminaire for IEC and ATEX Applications

Champ® H.I.D. Luminaires

Ex nR II T...Gc Ex t IIIC T...°C Db IP66 LCIE 09 ATEX 1002 I CIE 09 ATEX 3008

The Champ® NVMV design is optimized for Zone 2 gas applications (with standard restricted breathing Ex nR protection), as well as Zone 21 dust applications.

Applications:

NVMV Ex-Protected Luminaires are suitable for applications in Zone 2/Zone 21/Zone 22.

- In manufacturing plants, refineries, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, dockside and other heavy industrial applications
- In areas where combustible dusts or fibers may be present
- In areas where ignitable concentrations of flammable gases or vapors will be present
- In installations where moisture, dirt, dust, vibration, corrosion, and rough usage are problematic

Features:

- One product offering for global applications. The Champ family has the required IEC and ATEX certifications to provide solutions for specification requirements around the world.
- Restricted breathing (Ex nR) protection is standard. This provides better T-ratings, as gases will not enter the lamp chamber and control gear housing.
- Provides an integrated ballast with thermal cut-off functionality incorporated into the control gear. In the event of abnormal temperatures or when the lamp approaches end of life, the cut-off functionality protects the ballast from overheating or burning out.
- Identical mounting cover for IEC and NEC applications - regardless of wattage, options, and accessories.
 Reduce inventory costs and provide greater flexibility for engineering designers, customers, and distributors.
- HPS lamps restrike in 10-30 seconds with the instant restrike option (IR) should lamp extinguish due to system voltage drop or momentary loss. Optional builtin cut-off feature will shut off the instant restrike to avoid continuous high energy pulsing when lamp is inoperative or nearing end of life.
- Available with the Champ Quick-Clip. Quick-Clip secures the housing to the cover, providing faster, easier, and safer luminaire installation.

Certifications and Compliances:

Application in Zone 2 area acc. IEC 60079-15

- Marking to 94/9/EC: Ex II 3 G Ex nR II T*...Gc
- EC Type Examination: LCIE 09 ATEX 1002

Application in Zone 21 and 22 areas acc. IEC 61241-1

- Marking to 94/9/EC: Ex II 2 D Ex t IIIC T...°C(*) Db IP66
- EC Type Examination: LCIE 09 ATEX 3008

General per both application Zone 2 and 21

- Temperature ambient of use: -45°C to +55°C
- Electromagnetic compatibility: EN 61000-6-4
- Degree of protection: acc. EN 60529 IP66

Standard Materials and Finishes:

- Ballast housing and mountings copper-free aluminum
- Exterior hardware stainless steel (type 304)
- Reflectors (dome and angle) Krydon[®] fiberglass-reinforced polyester
- Globes heat and impact-resistant glass
- Guards copper-free aluminum and stainless steel (large housing - stainless steel only)



NVMV 70W - 250W (Small Housing)



NVMV 250W - 400W (Large Housing)

Technical Specifications:

• Entry Up to 4 x M20, M25, M32, ½" NPT and ¾" NPT and 1" NPT cable entries (1½" NPT for stanchion only)

• Termination 3 Core 6mm² max. (standard); 6 x 6mm² for looping

(available upon request)

Installation Ceiling Mount, Wall Mount, Stanchion Mount, Pendant Mount
 Lamp Holder E27 or E40

Lamp Type
 HSE/HST (high pressure sodium lamp) and HIE

(metal halide lamp)

• Lamp Power 70W, 100W, 150W, 250W, and 400W

into control gear

Burning Position Base up; up to 25° off vertical

Ingress Protection IP66 to EN 60529Electrical Supply 220, 230, 240V 50Hz and 220, 230V 60Hz

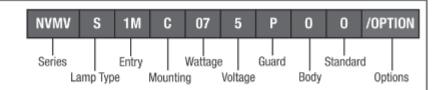
NVMV Series 70-400W Ex-Protected Luminaire for IEC and ATEX Applications

Champ® H.I.D. Luminaires

Ex nR II T...Gc Ex t IIIC T...°C Db IP66 LCIE 09 ATEX 1002 LCIE 09 ATEX 3008

Ordering Information:

Ordering Example: to complete part number, select ordering options from tables below and display them in the following order.



Example of Completed Part Number - Small Body: NVMVS1MC075POO

NVMV	s	1M	С	07	5	Р	0	0
Series	Lamp	Entry	Mounting*	Wattage	Voltage	Guard	Body	
NVMV Luminaire IEC Gear	S = HSE/HST (HPS) M = HIE (MH)	1M = M20 2M = M25 3M = M32 1N = ½" NPT 2N = ¾" NPT 3N = 1" NPT 5N = 1½" NPT (For Stanchion)	C = Ceiling W = Wall J = Stanchion	07 = 70W 10 = 100W 15 = 150W 25 = 250W	3 = 220V / 50 Hz 5 = 230V / 50 Hz 6 = 240V / 50 Hz 4 = 220V / 60 Hz 7 = 230V / 60 Hz	O = Without Guard G34 Globe P = G251 Globe with P22 Alum. Guard S = G251 Globe with P22 SS304 Guard	O = Small Body	O = Standard

Example of Completed Part Number - Large Body: NVMVS1MC255PLO

NVMV	S	1M	С	25	5	P	L	0
Series	Lamp	Entry	Mounting*	Wattage	Voltage	Guard	Body	
NVMV Luminaire IEC Gear	S = HSE/HST (HPS) M = HIE (MH)	1M = M20 2M = M25 3M = M32 1N = ½" NPT 2N = ¾" NPT 3N = 1" NPT 5N = 1 ½" NPT (For Stanchion)	C = Ceiling W = Wall J = Stanchion	25 = 250W 40 = 400W	3 = 220V / 50 Hz 5 = 230V / 50 Hz 6 = 240V / 50 Hz 4 = 220V / 60 Hz 7 = 230V / 60 Hz	O = Without Guard G303 Globe P = G303 Globe with P33 SS Guard	L = Large Body	O = Standard

Options and Accessories:

Description	Suffix
Instant restrike (100W HPS and 150W HPS) (alternative solution to dual arc lamps)	/IR
Dome reflector - small housing	/RD70
30° angle reflector - small housing	/RA70
Dome reflector - large housing	/RD739
30° angle reflector - large housing	/RA739
Champ® Quick-Clip	/S890

 $^{{}^\}star \text{For pendant mounting, order ceiling mount with pendant bracket accessory - please consult factory.}$

3L **NVMV Series**

Champ® H.I.D. Luminaires

Temperature Performance:

Refer to temperature performance data tables (below) to select luminaire that is suitable for your area specifications. These numbers are the maximum surface temperature of the luminaire.

Note: T3 - maximum surface temperature 200°C T4 - maximum surface temperature 135°C

For example: atmospheres that contain gasoline and have an ignition temperature of 536°C, any fixture with the T-rating in this table can be

Atmospheres that contain diethyl ether and have an ignition temperature of 160°C require a luminaire with T4 ratings.

NVMV 70W - 250W (Small Housing)

							ass I, Zone R II TGc	2)	D		ass II, Zone IIIC TDb	21)
Catalog Number Example†	Watts	Lamp Type	Rated Ambient °C	Lamp Holder	With G34 Globe Only	With G251 Globe Only	With G34 Globe and Reflector	With G251 Globe and Reflector	With G34 Globe Only	With G251 Globe Only	With G34 Globe and Reflector	With G251 Globe and Reflector
NVMVS1MC075*00	70W		40 50 55	E27	T4 T4 T4	T4 T4 T4	T4 T4 T4	T4 T4 T4	99°C 109°C 114°C	109°C 119°C 124°C	104°C 114°C 119°C	109°C 119°C 124°C
NVMVS1MC105*00	100W	HSE/HST	40 50 55	E40	T4 T4 T4	T4 T4 T3	T4 T4 T4	T4 T3 T3	99°C 109°C 114°C	117°C 127°C 132°C	104°C 114°C 119°C	128°C 138°C 143°C
NVMVS1MC155*00	150W	(HPS)	40 50 55	E40	T4 T3 T3	T3 T3 T3	T3 T3 T3	T3 T3 T3	122°C 132°C 137°C	140°C 150°C 155°C	140°C 150°C 155°C	140°C 150°C 155°C
NVMVS1MC255*00	250W		40 50 55	E40	T3 T3 T3	T3 T3 T3	T3 T2 T2	T2 T2 T2	168°C 178°C 183°C	174°C 184°C 189°C	189°C 199°C 204°C	218°C 228°C 233°C
NVMVM1MC075*00	70W		40 50 55	E27	T4 T4 T4	T4 T4 T4	T4 T4 T4	T4 T4 T4	99°C 109°C 114°C	109°C 119°C 124°C	104°C 114°C 119°C	109°C 119°C 124°C
NVMVM1MC105*00	100W	HIE (MH)	40 50 55	E27	T4 T4 T4	T4 T4 T3	T4 T4 T4	T4 T3 T3	99°C 109°C 114°C	117°C 127°C 132°C	104°C 114°C 119°C	128°C 138°C 143°C
NVMVM1MC155*00	150W	THE (IVIA)	40 50 55	E27	T4 T3 T3	T3 T3 T3	T3 T3 T3	T3 T3 T3	122°C 132°C 137°C	140°C 150°C 155°C	140°C 150°C 155°C	140°C 150°C 155°C
NVMVM1MC255*00	250W		40 50 55	E40	T3 T3 T3	T3 T2 T2	T3 T2 T2	T2 T2 T2	168°C 178°C 183°C	194°C 204°C 209°C	189°C 199°C 204°C	218°C 228°C 233°C

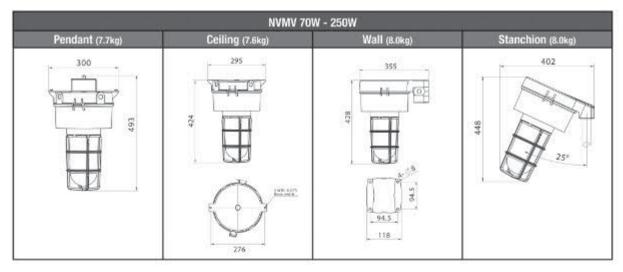
†Cat. No. - shown with M20 Ceiling Mount, /230V, 50 Hz.

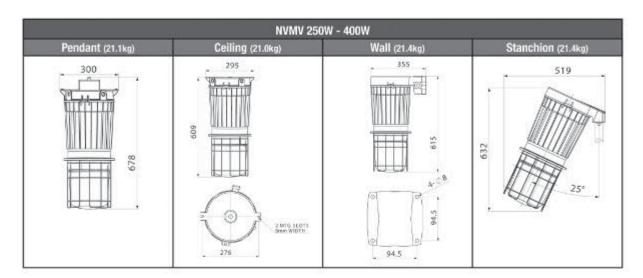
NVMV 250W - 400W (Large Housing)

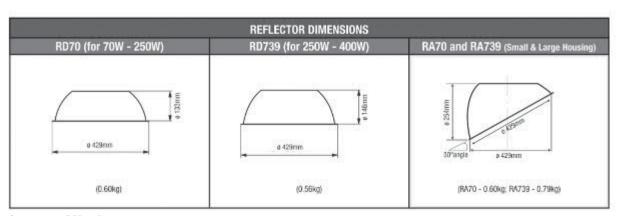
						s I, Zone 2) II TGc		s II, Zone 21) C TDb
Catalog Number Example	Watts	Lamp Type	Rated Ambient °C	Lamp Holder	With G303 Globe Only	With G303 Globe and Reflector	With G303 Globe Only	With G303 Globe and Reflector
NVMVS1MC255*L0	250W	HSE/HST	40 50 55	E40	T3 T3 T3	T3 T3 T3	137°C 147°C 152°C	137°C 147°C 152°C
NVMVS1MC405*L0	400W	(HPS)	40 50 55	E40	T3 T3 T3	T3 T3 T3	159°C 169°C 174°C	175°C 185°C 190°C
NVMVM1MC255*L0	250W		40 50 55	E40	T3 T3 T3	T3 T3 T3	137°C 147°C 152°C	137°C 147°C 152°C
NVMVM1MC405*L0	400W	HIE (MH)	40 50 55	E40	T3 T3 T3	T3 T2 T2	159°C 169°C 174°C	193°C 203°C 208°C

Champ® H.I.D. Luminaires

Dimensions:







3L NVMV Series

Champ® H.I.D. Luminaires

Photometry - Large Housing:

NVMV 400 WATT HSE - GLOBE AND GUARD ONLY		LA	MP:	400V	/ HSE					LIG Ligh		UTPI TPUT					
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
-/+180 -150 150	Floor		20%			20%			20%			20%			20%		0
-130	RCR RCR: Room Cavity Ratio 0 0.77 0.77 0.77 0.73 0.73 0.73							Coef	ficien	ts of U	Itilizat	ion (C	U)				
I XXTIII/XXX	0	0.77	0.77	0.77	0.73	0.73	0.73	0.65	0.65	0.65	0.58	0.58	0.58	0.51	0.51	0.51	0.48
-120	1	0.61	0.56	0.52	0.57	0.53	0.49	0.50	0.47	0.44	0.44	0.41	0.39	0.38	0.36	0.34	0.31
	2	0.51	0.44	0.39	0.47	0.42	0.37	0.41	0.37	0.33	0.36	0.32	0.29	0.31	0.28	0.25	0.22
-90 90	3	0.43	0.36	0.31	0.40	0.34	0.29	0.35	0.30	0.26	0.30	0.26	0.23	0.26	0.22	0.20	0.17
	4	0.37	0.30	0.25	0.35	0.28	0.23	0.30	0.25	0.21	0.26	0.22	0.18	0.22	0.19	0.16	0.13
	5	0.33	0.25	0.20	0.30	0.24	0.19	0.27	0.21	0.17	0.23	0.18	0.15	0.20	0.16	0.13	0.11
	6	0.29	0.22	0.17	0.27	0.21	0.16	0.24	0.18	0.14	0.20	0.18	0.13	0.17	0.14	0.11	0.09
-60 EO UNIT:ed/klm	7	0.28	0.19	0.15	0.24	0.18	0.14	0.21	0.16	0.12	0.18	0.14	0.11	0.16	0.12	0.09	0.07
22 d CO /180 CO /180 CO /270	8	0.23	0.17	0.13	0.22	0.16	0.12	0.19	0.14	0.11	0.17	0.12	0.09	0.14	0.11	0.08	0.08
-30 (9d n) 30 = 690 /270	9	0.21	0.15	0.11	0.20	0.14	0.10	0.17	0.13	0.09	0.15	0.11	0.08	0.13	0.10	0.07	0.05
v	10	0.19	0.14	0.10	0.18	0.13	0.09	0.16	0.11	0.08	0.14	0.10	0.07	0.12	0.09	0.06	0.05

NVMV 400 WATT HSE - GLOBE AND DOME REFLECTOR		LA	MP:	400V	/ HSE									P: 1.6 VN: 4			
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
-/+180 -150 150	Floor		20%			20%			20%			20%			20%		0
	RCR	RCR:	Room	Cavit	y Rati	0		Coe	fficier	its of l	Jtilizal	tion (C	U)				
-120	0	0.60	0.60	0.60	0.59	0.59	0.59	0.56	0.56	0.56	0.53	0.53	0.53	0.50	0.50	0.50	0.49
XXX/III/XXXX	1	0.50	0.47	0.45	0.49	0.46	0.44	0.46	0.44	0.42	0.44	0.42	0.41	0.42	0.40	0.39	0.38
	2	0.42	0.38	0.34	0.41	0.37	0.34	0.39	0.36	0.33	0.37	0.34	0.32	0.35	0.33	0.31	0.29
-90	3	0.36	0.31	0.27	0.35	0.31	0.27	0.33	0.29	0.28	0.32	0.28	0.25	0.30	0.27	0.25	0.23
	4	0.31	0.26	0.22	0.31	0.26	0.22	0.29	0.25	0.21	0.27	0.24	0.21	0.26	0.23	0.20	0.19
	- 5	0.28	0.22	0.18	0.27	0.22	0.18	0.25	0.21	0.18	0.24	0.20	0.17	0.23	0.20	0.17	0.16
	6	0.24	0.19	0.16	0.24	0.19	0.15	0.23	0.18	0.15	0.22	0.18	0.15	0.21	0.17	0.15	0.13
-60 (40) 60 UNIT: cd/klm	7	0.22	0.17	0.13	0.21	0.17	0.13	0.20	0.16	0.13	0.19	0.16	0.13	0.19	0.15	0.13	0.11
- C0 /180	-8	0.20	0.15	0.12	0.19	0.15	0.12	0.18	0.14	0.11	0.18	0.14	0.11	0.17	0.13	0.11	0.10
-30 1160 30 -690 /2/0	9	0.18	0.13	0.10	0.18	0.13	0.10	0.17	0.13	0.10	0.16	0.12	0.10	0.15	0.12	0.10	0.09
	10	0.16	0.12	0.09	0.16	0.12	0.09	0.15	0.12	0.09	0.15	0.11	0.09	0.14	0.11	0.09	80.0

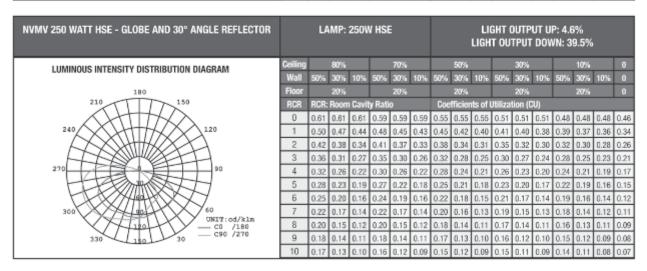
NVMV 400 WATT HSE - GLOBE AND 30° ANGLE REFLECTOR		LÆ	MP:	400V	V HSI	E				LII LIGH		DUTP TPUT					
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
-/+180 -150	Floor		20%			20%			20%			20%			20%		0
-150	RCR	RCR:	Room	Cavil	y Rati	0		Coe	fficier	ıts of l	Utiliza	tion (C	U)				
I \\X\T\W\T\X\\	0	0.60	0.60	0.60	0.58	0.58	0.58	0.54	0.54	0.54	0.51	0.51	0.51	0.47	0.47	0.47	0.46
-120	1	0.49	0.46	0.44	0.47	0.45	0.42	0.44	0.42	0.40	0.41	0.40	0.38	0.39	0.37	0.36	0.34
	2	0.42	0.37	0.34	0.40	0.36	0.33	0.37	0.34	0.31	0.35	0.32	0.30	0.33	0.30	0.28	0.27
-90	3	0.36	0.31	0.27	0.35	0.30	0.26	0.32	0.28	0.25	0.30	0.27	0.24	0.28	0.25	0.23	0.22
-90	4	0.31	0.26	0.22	0.30	0.25	0.22	0.28	0.24	0.21	0.26	0.23	0.20	0.25	0.22	0.19	0.18
	- 5	0.28	0.22	0.19	0.27	0.22	0.18	0.25	0.21	0.18	0.23	0.20	0.17	0.22	0.19	0.16	0.15
	- 6	0.25	0.19	0.16	0.24	0.19	0.16	0.22	0.18	0.15	0.21	0.17	0.14	0.20	0.16	0.14	0.13
-60 UNIT: cd/klm	7	0.22	0.17	0.14	0.21	0.17	0.13	0.20	0.16	0.13	0.19	0.15	0.13	0.18	0.15	0.12	0.11
7 7 1801 Y C0 /180	- 8	0.20	0.15	0.12	0.19	0.15	0.12	0.18	0.14	0.11	0.17	0.14	0.11	0.16	0.13	0.11	0.10
-30 Jan 30 - c90 /270	9	0.18	0.14	0.11	0.18	0.13	0.10	0.17	0.13	0.10	0.16	0.12	0.10	0.15	0.12	0.09	0.08
	10	0.17	0.12	0.10	0.16	0.12	0.09	0.15	0.12	0.09	0.14	0.11	0.09	0.14	0.11	0.09	0.08

Champ® H.I.D. Luminaires

Photometry - Large Housing:

NVMV 250 WATT HSE - GLOBE AND GUARD ONLY		LA	MP:	250W	V HSE	E				LIG LIGH		UTPL TPUT					
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
LUMINUUS INTENSITY DISTRIBUTION DIAGRAM	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
180	Floor		20%			20%			20%			20%			20%		0
210 150	RCR	RCR:	Room	Cavit	y Rati	0		Coe	fficier	its of l	Utiliza	tion (C	:U)				
I \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	0	0.75	0.75	0.75	0.70	0.70	0.70	0.60	0.60	0.60	0.52	0.52	0.52	0.44	0.44	0.44	0.40
240	1	0.59	0.55	0.51	0.55	0.51	0.47	0.46	0.43	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.25
	2	0.49	0.43	0.38	0.45	0.40	0.35	0.38	0.34	0.30	0.32	0.28	0.25	0.26	0.23	0.21	0.17
270	3	0.42	0.35	0.30	0.39	0.33	0.28	0.32	0.28	0.24	0.27	0.23	0.20	0.21	0.18	0.16	0.13
	4	0.36	0.29	0.24	0.33	0.27	0.22	0.28	0.23	0.19	0.23	0.19	0.16	0.18	0.15	0.12	0.10
	5	0.32	0.25	0.20	0.29	0.23	0.18	0.25	0.20	0.16	0.20	0.16	0.13	0.16	0.13	0.10	0.08
	6	0.28	0.22	0.17	0.26	0.20	0.16	0.22	0.17	0.13	0.18	0.14	0.11	0.14	0.11	80.0	0.06
300 60	7	0.25	0.19	0.14	0.23	0.17	0.13	0.20	0.15	0.11	0.16	0.12	0.09	0.13	0.10	0.07	0.05
UNIT:cd/klm C0 /180	8	0.23	0.17	0.12	0.21	0.15	0.11	0.18	0.13	0.10	0.15	0.11	0.08	0.12	0.09	0.06	0.04
330 ed ol 30 — c90 /270	9	0.21	0.15	0.11	0.19	0.14	0.10	0.16	0.12	0.08	0.13	0.10	0.07	0.11	0.08	0.05	0.04
	10	0.19	0.13	0.09	0.17	0.12	0.09	0.15	0.10	0.07	0.12	0.09	0.06	0.10	0.07	0.05	0.03

NVMV 250 WATT HSE - GLOBE AND DOME REFLECTOR		LA	MP:	250W	/ HSE	•				LIGH		OUTP TPUT					
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
180	Floor		20%			20%			20%			20%			20%		0
210 150	RCR	RCR:	Room	Cavit	y Rati	0		Coe	fficien	nts of L	Jtilizat	tion (C	U)				
	0	0.64	0.64	0.64	0.62	0.62	0.62	0.59	0.59	0.59	0.56	0.56	0.56	0.53	0.53	0.53	0.52
240	1	0.53	0.50	0.47	0.51	0.48	0.46	0.48	0.46	0.44	0.46	0.44	0.42	0.43	0.42	0.40	0.39
	2	0.44	0.40	0.36	0.43	0.39	0.35	0.41	0.37	0.34	0.38	0.35	0.33	0.36	0.34	0.32	0.30
	3	0.38	0.32	0.28	0.37	0.32	0.28	0.35	0.30	0.27	0.33	0.29	0.26	0.31	0.28	0.25	0.24
270 90	4	0.33	0.27	0.23	0.32	0.27	0.23	0.30	0.26	0.22	0.28	0.25	0.21	0.27	0.24	0.21	0.19
	5	0.29	0.23	0.19	0.28	0.23	0.19	0.26	0.22	0.18	0.25	0.21	0.18	0.24	0.20	0.17	0.16
	6	0.26	0.20	0.16	0.25	0.20	0.16	0.24	0.19	0.16	0.22	0.18	0.15	0.21	0.18	0.15	0.14
300 60	7	0.23	0.18	0.14	0.22	0.17	0.14	0.21	0.17	0.14	0.20	0.16	0.13	0.19	0.16	0.13	0.12
UNIT:cd/klm c0 /180	8	0.21	0.16	0.12	0.20	0.15	0.12	0.19	0.15	0.12	0.18	0.14	0.12	0.18	0.14	0.11	0.10
330 July 30 = C90 /270	9	0.19	0.14	0.11	0.18	0.14	0.11	0.18	0.13	0.10	0.17	0.13	0.10	0.16	0.13	0.10	0.09
	10	0.17	0.13	0.10	0.17	0.13	0.10	0.16	0.12	0.09	0.16	0.12	0.09	0.15	0.11	0.09	0.08



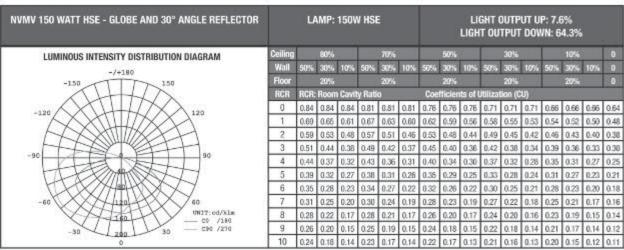
3L NVMV Series

Champ® H.I.D. Luminaires

Photometry - Small Housing:

NVMV 150 WATT HSE - GLOBE AND GUARD ONLY		U	AMP:	150V	V HSI	3				LIGH				P: 36. VN: 5			
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
-/+180	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
-150	Floor		20%			20%			20%		1	20%			20%		0
X HHAX								Coe	fficier	its of L	Jülizal	tion (C	U)				
-120	0	0.95	0.95	0.95	0.89	0.89	0.89	0.77	0.77	0.77	0.66	0.66	0.66	0.56	0.56	0.56	0.51
***/XXX/III/XXXX	1	0.76	0.70	0.65	0.70	0.65	0.61	0.60	0.56	0.52	0.50	0.47	0.44	0.41	0.39	0.37	0.32
A SANTITIVA SANTI	2	0.63	0.58	0.49	0.58	0.52	0.48	0.49	0.44	0.39	0.41	0.37	0.33	0.33	0.30	0.27	0.23
H-FEXTER THE	3	0.54	0.46	0.39	0.50	0.42	0.36	0.42	0.36	0.31	0.35	0.30	0.26	0.28	0.24	0.21	0.17
90	4	0.47	0.38	0.31	0.43	0.35	0.29	0.36	0.30	0.25	0.30	0.25	0.21	0.24	0.20	0.17	0.13
	5	0.41	0.32	0.26	0.38	0.30	0.24	0.32	0.26	0.21	0.26	0.21	0.17	0.21	0.17	0.14	0.11
TO A SHAPE OF THE	6	0.36	0.28	0.22	0.34	0.26	0.20	0.28	0.22	0.17	0.23	0.18	0.14	0.19	0.15	0.12	0.09
-60 60	7	0.33	0.24	0.19	0.30	0.23	0.17	0.25	0.19	0.15	0.21	0.16	0.12	0.17	0.13	0.10	0.07
UNIT: od/klm	8	0.29	0.22	0.16	0.27	0.20	0.15	0.23	0.17	0.13	0.19	0.14	0.11	0.16	0.12	0.09	0.06
-30 Jan 30 C90 /270	9	0.27	0.19	0.14	0.25	0.18	0.13	0.21	0.15	0.11	0.18	0.13	0.09	0.14	0.10	0.07	0.05
0	10	0.24	0.17	0.13	0.23	0.16	0.12	0.19	0.14	0.10	0.16	0.12	0.08	0.13	0.09	0.07	0.05

NVMV 150 WATT HSE - GLOBE AND DOME REFLECTOR		u	AMP:	1500	V HSE				8	LII LIGH		OUTP TPUT				,	
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%	T i	-	70%			50%	8		30%	ľ		10%		0
-/+180	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
-150	Floor		20%			20%			20%		10000	20%			20%		0
	RCR	RCR:	Room	Cavit	y Rati	0		Coe	fficien	its of L	Utiliza	tion (C	U)				1000
120	0	0.83	0.83	0.83	0.81	0.81	0.81	0.77	0.77	0.77	0.73	0.73	0.73	0.70	0.70	0.70	0.68
\XXXIIII/XXXX	1	0.70	0.66	0.63	0.68	0.65	0.61	0.64	0.62	0.59	0.61	0.59	0.57	0.58	0.56	0.55	0.53
	2	0.59	0.53	0.49	0.58	0.52	0.48	0.55	0.50	0.46	0.52	0.48	0.45	0.49	0.46	0.43	0.42
H-FANTE FILL	3	0.51	0.44	0.39	0.49	0.43	0.38	0.47	0.41	0.37	0.44	0.40	0.36	0.42	0.38	0.35	0.33
-90 90	- 4	0.44	0.37	0.32	0.43	0.36	0.31	0.41	0.35	0.30	0.39	0.34	0.30	0.37	0.33	0.29	0.27
	5	0.39	0.32	0.26	0.38	0.31	0.26	0.36	0.30	0.26	0.34	0.29	0.25	0.33	0.28	0.25	0.23
XXXXXXXXXX	6	0.34	0.27	0.22	0.34	0.27	0.22	0.32	0.26	0.22	0.31	0.25	0.21	0.29	0.25	0.21	0.19
-60 60	7	0.31	0.24	0.19	0.30	0.24	0.19	0.29	0.23	0.19	0.28	0.22	0.19	0.26	0.22	0.18	0.17
UNIT: od/klm	8	0.28	0.21	0.17	0.27	0.21	0.17	0.26	0.21	0.17	0.25	0.20	0.16	0.24	0.19	0.16	0.15
30 = 090 /270	9	0.26	0.19	0.15	0.25	0.19	0.15	0.24	0.19	0.15	0.23	0.18	0.14	0.22	0.18	0.14	0.13
0	10	0.23	0.17	0.13	0.23	0.17	0.13	0.22	0.17	0.13	0.21	0.16	0.13	0.20	0.16	0.13	0.11

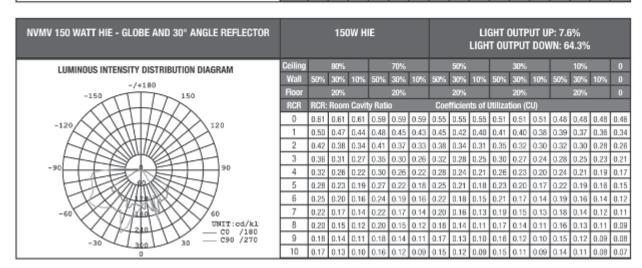


3

Photometry - Small Housing:

NVMV 150 WATT HIE - GLOBE AND GUARD ONLY	150W HIE					LIGHT OUTPUT UP: 36.0% LIGHT OUTPUT DOWN: 51.4%											
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
-/+180	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
-150 150	Floor		20%			20%			20%			20%			20%		0
	RCR	RCR:	Room	ı Cavil	y Rati	io o		Coel	fficier	ıts of l	Jtiliza	tion (C	:U)				
-120	0	0.89	0.89	0.89	0.85	0.85	0.85	0.77	0.77	0.77	0.70	0.70	0.70	0.63	0.63	0.63	0.60
-120	1	0.69	0.64	0.59	0.66	0.61	0.57	0.59	0.55	0.51	0.53	0.49	0.47	0.47	0.44	0.42	0.39
	2	0.58	0.50	0.44	0.54	0.48	0.42	0.48	0.43	0.38	0.43	0.39	0.35	0.38	0.34	0.31	0.28
	3	0.49	0.41	0.34	0.46	0.39	0.33	0.41	0.35	0.30	0.36	0.31	0.27	0.32	0.28	0.24	0.21
-90 90	4	0.42	0.34	0.27	0.40	0.32	0.26	0.35	0.29	0.24	0.31	0.26	0.22	0.28	0.23	0.19	0.17
	5	0.37	0.29	0.23	0.35	0.27	0.22	0.31	0.25	0.20	0.28	0.22	0.18	0.24	0.20	0.16	0.14
	6	0.33	0.25	0.19	0.31	0.24	0.18	0.28	0.21	0.17	0.25	0.19	0.15	0.22	0.17	0.14	0.11
-60 X X 40 X X 60	7	0.29	0.22	0.16	0.28	0.21	0.16	0.25	0.19	0.14	0.22	0.17	0.13	0.20	0.15	0.12	0.10
UNIT: cd/kl:	8	0.27	0.19	0.14	0.25	0.18	0.14	0.23	0.17	0.12	0.20	0.15	0.11	0.18	0.13	0.10	0.08
-30 /180 30 = 00 /180 270	9	0.24	0.17	0.12	0.23	0.16	0.12	0.21	0.15	0.11	0.18	0.14	0.10	0.16	0.12	0.09	0.07
0	10	0.22	0.15	0.11	0.21	0.15	0.11	0.19	0.13	0.10	0.17	0.12	0.09	0.15	0.11	0.08	0.06

NVMV 150 WATT HIE - GLOBE AND DOME REFLECTOR	150W HIE							IGHT OUTPUT UP: 2.4% HT OUTPUT DOWN: 68.1%									
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM	Ceiling		80%			70%			50%			30%			10%		0
-/+180	Wall	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
-150	Floor		20%			20%			20%			20%			20%		0
	RCR	RCR:	Room	Cavit	y Rati	0		Coel	fficier	rts of l	Jtilizat	tion (C	(U)				
-120	0	0.74	0.74	0.74	0.72	0.72	0.72	0.69	0.69	0.69	0.66	0.66	0.66	0.63	0.63	0.63	0.62
1 "XXXXIII/XXXX""	- 1	0.65	0.62	0.60	0.63	0.61	0.59	0.61	0.59	0.57	0.58	0.57	0.55	0.56	0.55	0.53	0.52
	2	0.56	0.52	0.48	0.55	0.51	0.48	0.53	0.49	0.46	0.51	0.48	0.45	0.49	0.46	0.44	0.43
	3	0.49	0.43	0.39	0.48	0.43	0.39	0.46	0.42	0.38	0.44	0.41	0.38	0.42	0.39	0.37	0.38
-90 90	4	0.43	0.37	0.33	0.42	0.37	0.32	0.40	0.36	0.32	0.39	0.35	0.32	0.37	0.34	0.31	0.30
	5	0.38	0.32	0.28	0.37	0.32	0.27	0.36	0.31	0.27	0.34	0.30	0.27	0.33	0.29	0.27	0.25
	6	0.34	0.28	0.24	0.33	0.28	0.24	0.32	0.27	0.23	0.31	0.26	0.23	0.30	0.26	0.23	0.22
-60 60	7	0.30	0.25	0.21	0.30	0.24	0.20	0.29	0.24	0.20	0.28	0.23	0.20	0.27	0.23	0.20	0.19
UNIT:cd/k1	8	0.27	0.22	0.18	0.27	0.22	0.18	0.26	0.21	0.18	0.25	0.21	0.18	0.25	0.21	0.18	0.16
-30 30 C90 /270	9	0.25	0.20	0.16	0.25	0.19	0.16	0.24	0.19	0.16	0.23	0.19	0.16	0.22	0.19	0.16	0.15
0	10	0.23	0.18	0.14	0.23	0.18	0.14	0.22	0.17	0.14	0.21	0.17	0.14	0.21	0.17	0.14	0.13



3L

Champ® H.I.D. Luminaires

VMV, LMV, DMV, VMV High Wattage & N2MV Series

Globes



Lamp Watts	Luminaire Series	Туре	Cat. #
35–150	LMV	Heat/impact resistant	G54
50–175	VMV	Heat/impact resistant	G24
50–250	DMV	Heat/impact resistant	G303
200–400	VMV	Heat/impact resistant	G303
50–175	N2MV	Heat/impact resistant	G303

Guards



P50 – use with G54 globe



P21 – use with G24 globe



P33 – use with G303 globe



P23 - use with refractors

Lamp Watts	Luminaire Series	Туре	Cat. #
35–150	LMV	Copper-free aluminum	P50
50-175	VMV	Copper-free aluminum	P21
50-250	DMV	Stainless steel	P33
200-400	VMV	Stainless steel	P33
Refractors	All	Stainless steel	P23
50-175	N2MV	Stainless steel	P33

Reflectors



Dome - Krydon® material



30° Angle – Krydon material

Lamp Watts	Luminaire Series	Dome Cat. #	Angle Cat. #
35-150	LMV	RD636	RA636
50-175	VMV	RD70	RA70
50-250	DMV	RD739	RA739
200-400	VMV	RD739	RA739
50–175	N2MV	RD739	RA740

Reflector / Lens



Etched Alzak aluminum reflector/tempered glass lens

Lamp Watts	Luminaire Series	Туре	Cat. #
200-400	VMV	Reflector/Lens	GRD4
70-250	DMV	Reflector/Lens	GRD4

Globes - Teflon Coated

Teflon coated for increased shatter protection Lamp Watts Luminaire Series Cat. #

Lamp Watts	Luminaire Series	Cat. #
50-175	VMV	G24 S808
50–175	DMV	G303 S808

Alzak is a registered trademark of Alcoa. Teflon is a registered trademark of E.I. DuPont Co.

VMV, LMV, DMV, VMV High Wattage & N2MV Series

Refractors







GR302, GR303, GR305

Lamp Watts	Luminaire Series	I.E.S. Type	Glass Cat. #	Plastic (100W max. non-hazardous)* Cat. #
50–175	VMV	II III V	R2 R3 R5	PR2 PR3 PR5
200–400	VMV	II III V	GR302 GR305 GR305	
50–250	DMV	II III V	GR302 GR303 GR305	PGR302 PGR303 PGR305

⁵⁰⁻¹⁷⁵ N2MV

I.E.S. Distribution Curves



Type I

Type II

Type III

Type V

Compact Refractors



Lamp Watts	Luminaire Series	I.E.S. Type	Glass Cat. #
50–175	VMV	I	G241
		III	G243
		V	G245
Optional sta	inless steel wire guard		P241

Crouse-Hinds

Safety Lighting Options

Description	Suffix
Quartz Auxiliary Lamp	QTZ

The quartz auxiliary lamp comes to full brightness instantly and remains lit until the H.I.D. lamp attains 60–70% of full illumination. Quartz auxiliary lamps can be used with all DMV, VMV and VMV High Wattage series *Champ*® luminaires. Use for non-hazardous applications ONLY.

VMV luminaires (50–175W) ordered with this option must use large glass refractor optics, not compact refractors.

100W single ended lamp – Q100CL/DC, Q100DC or 100Q/CL/DC NOT furnished

Instant Restrike

Factory installed instant restrike device will restart a hot High Pressure Sodium lamp after a momentary power interruption, without the typical delay for cooling.

For use in 50–150W "LX" HPS luminaires. IR
For use in 50–100W "LX" HPS luminaires. TIR

Ballast-Gard™ BG

Ballast-Gard starter cut-out switch prevents starter pulsing after a time delay of approximately two minutes if the lamp fails to start.

For use in 50-400 watt HPS luminaires only.

^{*}Not available with VMV fluorescent.

V2PC, D2S and EV2IH Series

The only UL recognized photocells for Class I, Division 2 areas. Eliminates the need for an explosionproof box!

Eaton's Crouse-Hinds factory-sealed, field installed photocells offer reliable, dusk-to-dawn lighting control in Class I, Division 2 locations. These photocells are ideal for walkways, security lighting, and any other outdoor lighting application that utilizes Champ® H.I.D. lighting luminaires.

Applications:

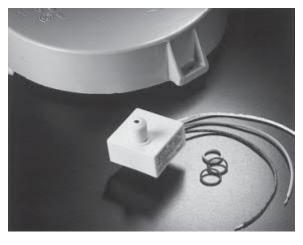
Eaton's Crouse-Hinds photocells are designed:

- To provide control for automatic dusk-to-dawn lighting.
- For safety by turning on outdoor luminaires in critical passageways at night.
- To save energy by operating luminaires only when necessary.
- For walkways, parking areas, outdoor process areas, security lighting, or any outdoor lighting application in Class I, Division 2 locations and corrosive environments.
- For use with LMV, DMV, VMV, VMV High Wattage, and FMV Series Champ[®] lighting luminaires (V2PC Series).
- For use on 35–400 watt H.I.D., incandescent, or fluorescent lighting luminaires.
- For remote mounting in FS boxes (D2S Series).
- For mounting in EIH enclosures for Class I, Division 1 applications (EV2IH Series).

Features:

- Field-installable.
- Solid-state design for performance and dependability.
- Factory sealed components.
 Explosionproof enclosure not required for Class I, Division 2 locations.
- Luminaires turn on at 3 footcandles, off at 8 footcandles insuring that the luminaires are operating only when needed.
- Built-in 10 second time delay to eliminate nuisance tripping.
- Eight-year operating life.
- Furnished with 6" stranded 600 volt color coded wire leads.
- Constructed from corrosion-resistant thermoplastic polyester.
- Available on a DS cover for use with any FS/FD box (D2S Series).
- Available in an EIH enclosure for use in Class I, Division 1, Groups B*, C, and D locations (EV2IH Series). No seals required.

*For Group B applications, seal within $1^{1/2}$ " of enclosure in accordance with Section 501-5 of the National Electric Code®.



Certifications and Compliances:

V2PC Series and D2S Series

NEC/CEC:

Class I, Division 2, Groups A, B, C, D

- UL Standard: 844 Hazardous (Classified) Locations
- CSA: C22.2 No. 55

EV2IH Series

NEC/CEC:

Class I, Division 1 and 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G

Class III

- NEMA: 3, 4, 7BCD, 9EFG
- UL Standard: 844 Hazardous (Classified) Locations
- CSA: C22.2 No. 30, 55

Electrical Rating Ranges:

- 120, 208, 220, 240, 277 VAC
- 50 / 60 Hz
- 35-400 watt H.I.D., incandescent, or fluorescent
- V2PC20 3.3A max. current rating
- V2PC22 1.8A max. current rating
- V2PC27 1.4A max. current rating

Ordering Information:

Photocell for field installation in lighting fixtures*



Cat. #	Voltage Range	Current Rating	
V2PC20	120V, 50/60Hz	3.3A	
V2PC22	208-240V, 50/60Hz	1.8A	
V2PC27	277V, 50/60Hz	1.4A	

Photocell in DS cover for use with FS/FD box



Cat. #	Voltage Range	
D2S20 D2S208 277	120V, 50/60Hz 208V-277V	

Photocell in EIH enclosure for use in Class I, Division 1, Groups B, C, and D; Class II, Division 1, Groups E, F, and G; and Class III locations



Cat. #	Voltage Range	
EV2IH20 EV2IH208 277	120V, 50/60Hz 208-277V 50/60Hz	

Replacement Photocell for D2S Cover or EIH Enclosure * †



·		
Cat. #	Voltage Range	Current Rating
V2PCT20	120V, 50/60Hz	8.33A
V2PCT208 277	208V-277V 50/60Hz	4.81A - 3.61A depending on voltage

* Must be factory installed in Canada.

† When mounting in EIH enclosures for Class I, Division 1 applications (EV21H Series) seals are not required for Groups C & D.

Options:

To order luminaire with photocell factory installed:

- 1. Specify luminaire dedicated supply voltage (not MT, DT, or TT)
- 2. Add photocell Cat. No. to fixture Cat. No. as follows:

V2PC20 V2PC22 V2PC27

Example: VMVSJ070GP/120-V2PC20 is a 120V 60Hz luminaire with

a factory installed photocell.

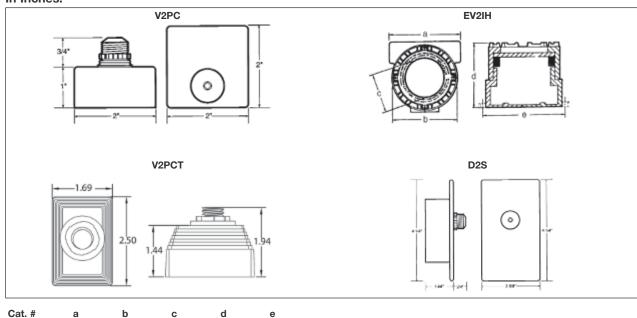
Note: Only the V2PC is available as a factory installed photocell.

CI. I, Div. 2, Groups A, B, C, D Maintains CI. I, Div. 2 Suitability of Eaton's Crouse-Hinds Champ® Series Luminaires

V2PC, D2S and EV2IH Series

Dimensions:

In Inches:



EV2IH

5.00

4.25

2.60

4.54

5.25

see page 1056

High Intensity Discharge (H.I.D.) Luminaires Hazardous

Description	Page No.
Application/Selection	see page 1028
Class I and Class II Hazardous Area Lighting	
Integrally Ballasted Luminaires	
EVLS Hazard•Gard® Series	see pages 1029-1044
EVLP Hazard•Gard® Series	see page 1045

EVM Hazard•Gard® Series

4L

High Intensity Discharge (H.I.D.) Luminaires

Hazardous Application and Selection Quick Selector Chart

Applications:

Luminaires contained in this section are for use:

- In indoor or outdoor hazardous locations
- As general area or spot lighting applications
- Where longer lamp life provides desirable maintenance cost savings and return on investment through use of fewer luminaires, circuits and ancillary apparatus
- Where relamping and maintenance difficulties require longer lamp life

Table 500.8(C) Identification Numbers.

Maximum Deg. C	Temperature Deg. F	Temp. Class (T Code)
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

Considerations for Selection:

Environmental:

• Make sure luminaire meets NEC/CEC requirements for area in which it will be

Lighting levels required:

• Can luminaire accept lamp of sufficient size to yield desired light level?

		Electrical Characteristics		
Series	NEC Compliance	Watts	Volts	Ballast
EVLS Hazard•Gard®	CI. I, Groups B (with suffix GB), C, D CI. II CI. III	HPS: 50, 70, 100, 150 Metal Halide: 70, 100, 175 Pulse Start Metal Halide: 150, 175	Multi-tap: 120, 208, 240, 277V/60Hz 480V/60Hz Tri-tap: 120, 277, 347V/60Hz 220V/60Hz 220/240V /50Hz	
EVM Hazard•Gard®	Cl. I, Groups B, C, D	50, 70, 100, 150, 175, 200, 250, 320, 400 (Mogul base)	120, 208, 240, 277, 347, 480, 600, MT	High power factor, constant wattage, reactor or
	Cl. II, Groups E, F, G	50, 70, 100, 150, 175 (Mogul base)	120, 208, 240, 277, 347, 480, 600, MT	autotransformer, integral
Champ® Series (see Section 3L)	Cl. II, Groups E, F, G	70, 100, 150, 175 (Mogul base)	120, 208, 240, 277, 347, 480, 600, MT	High power factor, constant wattage integral
EVLP Hazard•Gard®	Cl. I, Groups B, C, D	70, 100, 150, 175 (Medium base) 70, 100, 150, 175, 200, 250 (Mogul base)	120, 208, 240, 277, 347, 480, MT, TT	High power factor, constant wattage, reactor or autotransformer, integral
	Cl. II, Groups E, F, G Cl. III	70, 100 (Medium base) 70, 100, 150, 175 (Mogul base)	120, 208, 240, 277, 347, 480, MT, TT	

EVLS Hazard•Gard®

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire

CI. I, Div. 1, Group B
(with suffix GB), C, D
CI. I, Zone 1, Group IIB + H₂
(with suffix GB)
CI. II, CI. III & Simultaneous Presence

UL and cUL Listed Wet locations (UL1598) Marine locations (UL1598A) Type 4X, IP66

A compact, affordable, explosionproof luminaire that has the best overall temperature performance ratings in its class!

Eaton's Crouse-Hinds EVLS Hazard • Gard • is perfect as a general area lighting workhorse where space constraints exist. EVLS Hazard • Gard • is easy to install, 175 watts and less, has select options that are just right for your budget — AND it's Class I. Division 1, Group B with GB option!

Applications:

Eaton's Crouse-Hinds EVLS Hazard•Gard Lighting Fixures are used for general lighting and task lighting in:

- Areas where flammable or explosive vapors or gases are present
- Confined spaces or heavy process industry facilities
- Petroleum refineries; chemical, petrochemical and pharmaceutical plants; oil terminals; gas plants
- · Waste treatment facilities
- Drilling platforms and other coastal and offshore hazardous areas

Features:

- Compact and rugged a Division 1 luminaire that fits in tight spaces
- Smooth turning two start Acme threads for mounting modules and globe attachments save time and eliminate installation damage
- Quick-connect design facilitates easy installation and saves money - install and wire the mounting module, and then screw in luminaire to make the electrical connection
- Best overall T-rating in the industry for a medium-base HID lamp - use in elevated ambient and illuminate the most volatile areas of your facility - optimal safety in your high-risk areas
- Factory-sealed wired and sealed with no external sealing fittings required in Groups B, C, and D
- An adapter module is available for direct connection to existing Hazard•Gard modules such as the EV22 ceiling mount

Certification & Compliances:

UL (844) and cUL Listed (CSA C22.2 No. 137) for:

- Class I, Division 1, Groups B (with suffix GB), C, D
- Class I, Zone 1, Group IIB + H₂ (with suffix GB)
- Class II, Class III & Simultaneous Presence
- Wet locations (UL1598), Marine locations (UL1598A), Type 4X, IP66

Standard Materials:

- Bodies, mounting modules and cast guards copper-free aluminum
- Wire guard stainless steel
- Globe heat- and impact-resistant glass
- Gaskets silicone and neoprene

Standard Finishes:

· Epoxy powder coat paint

Ratings (Electrical Size):

Sources/Wattages:

HID Medium Base (initial offering)
HPS: 50, 70, 100, 150 watt
Metal Halide: 70, 100, 175 watt
Pulse Start Metal Halide: 150, 175 watt

Voltages:

- Multi-tap (120, 208, 240, 277V/60 Hz)
- 480V/60 Hz
- Tri-tap (120, 277, 347V/60 Hz)
- 220V/60 Hz
- 220/240V (or 230V)/50 Hz

Transformer Types:

- HX-HPF Standard
- CWA Standard on 175W
 CWA Constant Wattage Autotransformer
 CWI Constant Wattage Insulation
 Transformer

Available for HPS and MH, for most voltages and wattages (Additional voltages available on request.)

Conduit Entries:

- 3/4" and 1" NPT pendant, ceiling and wall mount
- 11/2" NPT stanchion

Options:

-	
Description	Suffix
 Instant Restrike (HPS) 	IR
 Ballast-Gard[™] (HPS) 	BG
 Group B Suitability 	GB

Accessories:

Description Suffix

• Dome Reflector RD725

• Angle Reflector RA725

• Guard EV502 or P515





Two Start Acme Threads



Quick Connect Design



Adapter Module Available

CI. I, Div. 1, Groups B (with suffix GB), C, D Cl. I, Zone 1, Group IIB + H₂

Wet locations (UL1598), Marine locations (UL1598A) Type 4X, IP66

UL and cUL Listed

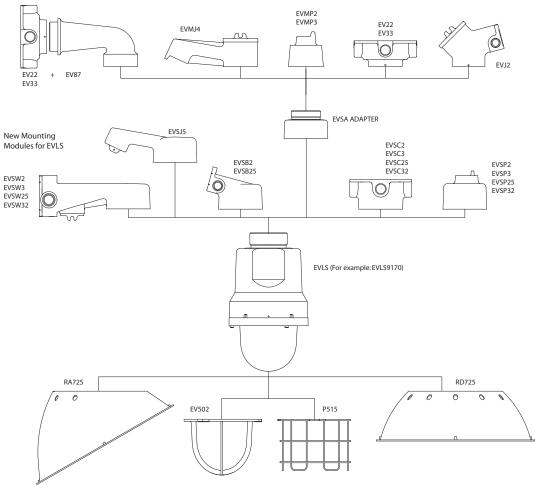
Compact & Rugged, Class I, Zone 1, (with suffix GB)
Div. 1 Explosionproof Luminaire

Ci. 1, Zone 1, Group IIB + H2
(with suffix GB)
Cl. II, Cl. III & Simultaneous Presence

Mounting Modu	iles:	New Mounting Modules		
Exi	sting For EVI, EVLP, EVM (must us	<u> </u>	For EVLS Only	
Туре	Conduit	Catalog Number	Conduit	Catalog Number
Adapter		EVSA		
Pendant	3/4"	EVMP2	3/4"	EVSP2
	1"	EVMP3	1"	EVSP3
			25mm	EVSP25
			32mm	EVSP32
Ceiling & Wall Box	3/4"	EV22	3/4"	EVSC2
_	1"	EV33	1"	EVSC3
			25mm	EVSC25
			32mm	EVSC32
Wall Bracket Arm	Use EV22 or EV33 box with	EV87	3/4"	EVSW2
			1"	EVSW3
			25mm	EVSW25
			32mm	EVSW32
Stanchion	11/4"	EVMJ4	1½"	EVSJ5
Bulkhead	11/4"	EVJ2	3/4"	EVSB2
			25mm	EVSB25

Family Tree:

Existing Mounting Modules used on EVI, EVLP, EVM (must use EVSA adapter)

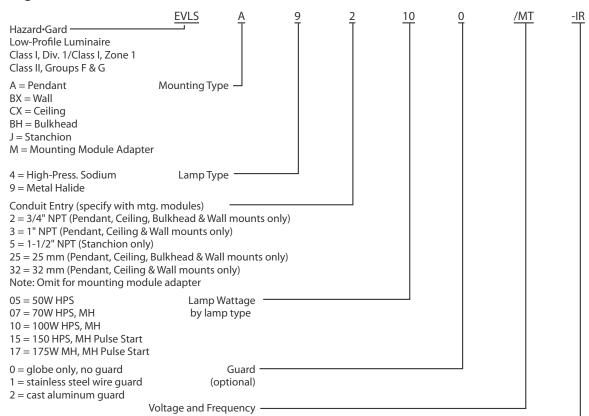


UL and cUL Listed Wet locations (UL1598), Marine locations (UL1598A) Type 4X, IP66

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire

Cl. II, Cl. III & Simultaneous Presence

Ordering Reference Sheet:



		Н	PS			MH			
	50	70	100	150	70	100	150 PS	175	175 PS
DT	Х								
MT		х	х	х	х	х	х		Х
TT		Х	Х	Х	Х	Х		Х	Х
120	Х	Х	Х	Х	Х	Х	Х		Х
208		Х	Х	Х	Х	Х	Х		Х
220		х	х	Х	х				
220 50	х	х	х	Х	х	х	х		
240		х	х	Х	х	х	х		Х
240 50	Х	х	х	х	х	х	Х		
277	Х	х	х	Х	х	х	х		Х
347		Х	Х	Х	Х	х			Х
480		х	х	х		х			Х

BG = Ballast Guard (lamp type S only)

Options

 $\mathsf{CWI} = \mathsf{SCE} \; \mathsf{Ballast}$

GB = Group B suitability

IR = Instant Restrike (lamp type S only)

S828 = Pulse Start (175W & 150W MH only)

Note: BG and IR options cannot be installed together.



4L EVLS Hazard•Gard®

Cl. I, Div. 1, Groups B (with suffix GB), C, D Cl. I, Zone 1, Group IIB + H₂ (with suffix GB)

UL and cUL Listed Wet locations (UL1598), Marine locations (UL1598A) Type 4X, IP66

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire

Cl. II, Cl. III & Simultaneous Presence

		Class I,	Class II	
Watts Ambient Temp °C		Div. 1 & Zone 1	(Dust) and Class III	Supply Wire Temp °C
High Pressu	ure Sodium			
	40	T5	T5	90
50W	55	T4A	_	90
	65	T4A	_	105
	40	T5	T5	90
70W	55	T4A	_	90
	65	T4A	_	105
	40	T4A	T3C	90
100W	55	T4	_	90
	65	T4	_	105
150///	40	T4A	T3C	90
150W	55	T4	_	90
Metal Halid	e (including Pulse Start [PS]	as indicated)		
	40	T5	T4A	90
70W	55	T4A	_	90
	65	T4A	_	105
	40	T4A	T4	90
100W	55	T4A	_	90
	65	T4		105
150 PS	40	T3C	_	90
175W	40	T3C	_	90
175 PS	40	T3C	_	90

Net Luminaire Weights (lbs.):

ivet Eurimane vveignts (ibs.).							
Luminaire Series	Lamp Watts	Weight with Globe & Wire Guard					
High Pressure Sodium							
EVLS4	50W	18.5					
	70W	21.5					
	100W	22.5					
	150W	24					
Metal Halide							
EVLS9	70W	20					
	100W	20.5					
	150 PS	23					
	175W	23					
	175 PS	23					
Add for cast guard:		1					
Add for mounting modules:							
Pendant		2					
Ceiling		3.5					
Stanchion		3					
Bulkhead		2.5					
Wall		5.5					
Adapter		2					
Add for reflectors:		4.5					
Dome		1.5					
Angle		2					

4

EVLS Hazard•Gard®

CI. I, Div. 1, Groups B (with suffix GB), C, D
CI. I, Zone 1, Group IIB + H₂ (with suffix GB)
CI. II, CI. III & Simultaneous Presence

UL and cUL Listed Wet locations (UL1598), Marine locations (UL1598A) Type 4X, IP66

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire

Ordering Information — High Pressure Sodium:









			PENDANI		BULKHEAD			
Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard	
	3/ ₄ " 1"	EVLSA42050 EVLSA43050	EVLSA42051 EVLSA43051	EVLSA42052 EVLSA43052	EVLSBH42050	EVLSBH42051	EVLSBH42052	
50W	11/2"							
	25 mm	EVLSA425050	EVLSA425051	EVLSA425052	EVLSBH425050	EVLSBH425051	EVLSBH425052	
	32 mm	EVLSA432050	EVLSA432051	EVLSA432052				
	3/4"	EVLSA42070	EVLSA42071	EVLSA42072	EVLSBH42070	EVLSBH42071	EVLSBH42072	
	1"	EVLSA43070	EVLSA43071	EVLSA43072				
70W	11/2"							
	25 mm	EVLSA425070	EVLSA425071	EVLSA425072	EVLSBH425070	EVLSBH425071	EVLSBH425072	
	32 mm	EVLSA432070	EVLSA432071	EVLSA432072				
	3/4"	EVLSA42100	EVLSA42101	EVLSA42102	EVLSBH42100	EVLSBH42101	EVLSBH42102	
	1"	EVLSA43100	EVLSA43101	EVLSA43102				
100W	11/2"							
	25 mm	EVLSA425100	EVLSA425101	EVLSA425102	EVLSBH425100	EVLSBH425101	EVLSBH425102	
	32 mm	EVLSA432100	EVLSA432101	EVLSA432102				
	3/4"	EVLSA42150	EVLSA42151	EVLSA42152	EVLSBH42150	EVLSBH42151	EVLSBH42152	
	1"	EVLSA43150	EVLSA43151	EVLSA43152				
150W	11/2"							
	25 mm	EVLSA425150	EVLSA425151	EVLSA425152	EVLSBH425150	EVLSBH425151	EVLSBH425152	
	32 mm	EVLSA432150	EVLSA432151	EVLSA432152				

Complete catalog number	Standard Voltage Ballasts											
as follows:	NEC/UL			CEC/C	SA (cU	IL)				Export		
Voltage	Multi-tap	120V	480V	Tri-Tap	120V	208V CWI	240V CWI	480V CWI	600V CWI	220V 60 Hz	220V 50 Hz	240V 50 Hz
Suffix	/MT	/120	/480	/TT	/120	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/240 50

CI. I, Div. 1, Groups B (with suffix GB), C, D
CI. I, Zone 1, Group IIB + H₂ (with suffix GB)
CI. II, CI. III & Simultaneous Presence

UL and cUL Listed Wet locations (UL1598), Marine locations (UL1598A) Type 4X, IP66

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire

Ordering Information — High Pressure Sodium (Cont'd):







			WALL		CEILING			
Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard	
	3/4"	EVLSBX42050	EVLSBX42051	EVLSBX42052	EVLSCX42050	EVLSCX42051	EVLSCX42052	
	1"	EVLSBX43050	EVLSBX43051	EVLSBX43052	EVLSCX43050	EVLSCX43051	EVLSCX43052	
50W	11/2"							
	25 mm	EVLSBX425050	EVLSBX425051	EVLSBX425052	EVLSCX425050	EVLSCX425051	EVLSCX425052	
	32 mm	EVLSBX432050	EVLSBX432051	EVLSBX432052	EVLSCX432050	EVLSCX432051	EVLSCX432052	
	3/4"	EVLSBX42070	EVLSBX42071	EVLSBX42072	EVLSCX42070	EVLSCX42071	EVLSCX42072	
	1"	EVLSBX43070	EVLSBX43071	EVLSBX43072	EVLSCX43070	EVLSCX43071	EVLSCX43072	
70W	11/2"							
	25 mm	EVLSBX425070	EVLSBX425071	EVLSBX425072	EVLSCX425070	EVLSCX425071	EVLSCX425072	
	32 mm	EVLSBX432070	EVLSBX432071	EVLSBX432072	EVLSCX432070	EVLSCX432071	EVLSCX432072	
	3/4"	EVLSBX42100	EVLSBX42101	EVLSBX42102	EVLSCX42100	EVLSCX42101	EVLSCX42102	
	1"	EVLSBX43100	EVLSBX43101	EVLSBX43102	EVLSCX43100	EVLSCX43101	EVLSCX43102	
100W	11/2"							
	25 mm	EVLSBX425100	EVLSBX425101	EVLSBX425102	EVLSCX425100	EVLSCX425101	EVLSCX425102	
	32 mm	EVLSBX432100	EVLSBX432101	EVLSBX432102	EVLSCX432100	EVLSCX432101	EVLSCX432102	
	3/4"	EVLSBX42150	EVLSBX42151	EVLSBX42152	EVLSCX42150	EVLSCX42151	EVLSCX42152	
	1"	EVLSBX43150	EVLSBX43151	EVLSBX43152	EVLSCX43150	EVLSCX43151	EVLSCX43152	
150W	11/2"							
	25 mm	EVLSBX425150	EVLSBX425151	EVLSBX425152	EVLSCX425150	EVLSCX425151	EVLSCX425152	
	32 mm	EVLSBX432150	EVLSBX432151	EVLSBX432152	EVLSCX432150	EVLSCX432151	EVLSCX432152	

Complete	
catalog	
number	

Standard Voltage Ballasts

Hulliber												
as follows:	NEC/UL			CEC/C	SA (cU	IL)		Export				
Voltage	Multi-tap	120V	480V	Tri-Tap	120V	208V CWI	240V CWI	480V CWI	600V CWI	220V 60 Hz	220V 50 Hz	240V 50 Hz
Suffix	/MT	/120	/480	/TT	/120	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/240 50

EVLS Hazard•Gard®

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire Cl. I, Div. 1, Groups B (with suffix GB), C, D Cl. I, Zone 1, Group IIB + H₂ (with suffix GB) Cl. II, Cl. III & Simultaneous Presence UL and cUL Listed
Wet locations (UL1598),
Marine locations (UL1598A)
Type 4X, IP66

Ordering Information — High Pressure Sodium (Cont'd):







STANCHION

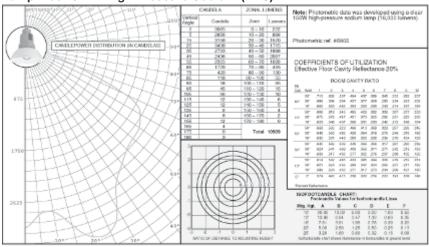
ADAPTER

Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard	mounting module and guard
EOW/	Adapter				EVLSM4050	EVLSM4051	EVLSM4052	EVLS4050
50W	11/2"	EVLSJ45050	EVLSJ45051	EVLSJ45052				
70W	Adapter				EVLSM4070	EVLSM4071	EVLSM4072	EVLS4070
7000	11/2"	EVLSJ45070	EVLSJ45071	EVLSJ45072				
100W	Adapter				EVLSM4100	EVLSM4101	EVLSM4102	EVLS4100
10000	11/2"	EVLSJ45100	EVLSJ45101	EVLSJ45102				
150W	Adapter				EVLSM4150	EVLSM4151	EVLSM4152	EVLS4100
13000	11/2"	EVLSJ45150	EVLSJ45151	EVLSJ45152				

Complete catalog	STANDA	STANDARD VOLTAGE BALLASTS											
number as follows:	NEC/UL			CEC/C	SA (cU	IL)				Export			
Voltage	Multi-tap	120V	480V	Tri-Tap	120V	208V CWI	240V CWI	480V CWI	600V CWI	220V 60 Hz	220V 50 Hz	240V 50 Hz	
Suffix	/MT	/120	/480	/TT	/120	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/240 50	

Photometrics - EVLS High Pressure Sodium

Fixture with Globe and Domed Reflector (less guard) EVLSA42150RD725 Lamp: 150W/B17 High Pressure Sodium (HPS)



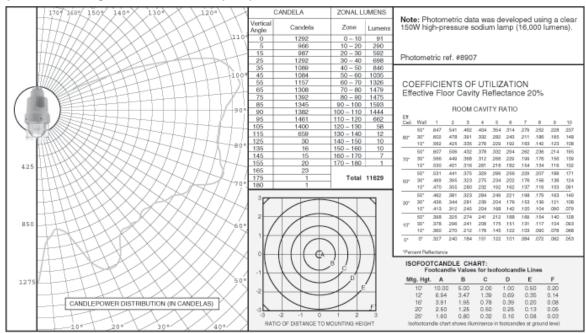
4L EVLS Hazard • Gard®

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire CI. I, Div. 1, Groups B
(with suffix GB), C, D
CI. I, Zone 1, Group IIB + H₂
(with suffix GB)
CI. II, CI. III & Simultaneous Presence

UL and cUL Listed Wet locations (UL1598), Marine locations (UL1598A) Type 4X, IP66

Photometrics - EVLS High Pressure Sodium:

Fixture with Globe and Guard EVLSA42151 Lamp: 150W/B17 High Pressure Sodium (HPS)



Photometrics - EVLS High Pressure Sodium:

Fixture with Globe and Angled Reflector (less guard) EVLSA42150RA725 Lamp: 150W/B17 High Pressure Sodium (HPS)

XXXXXXX	0017001800170	350000	X ¹⁴⁰		CAND	ELA		ZONAL LI	JMENS	Note: Photometric data was developed using a cle
	241117	744XX		Vertical Angle	Front		Back	Zone	Lumens	150W high-pressure sodium lamp (16,000 lumens)
130° X X X X			130	0		2831		0 - 10	250	
XXXXXX	2011	424XX	$\times \times \times$	- 5		2571	2545	10-20	780	
V XX X	WED DISTRIBUTIONS	X X X X X	OK.	15	3505	2651	2196	20 - 30	1324	Photometric ref. #8906
120° CANDLEPO	WER DISTRIBUTION (I	N CANDELAS)	120	25		2953	1972	30 - 40	1523	
Y4/Y4/XXXX	XXXIIIIIIXXX		メノア	35 45	3274	2230	1585 475	40 - 50 50 - 60	1621	
4.12540540808	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	488888020	1741	55		2169	115	60 - 70	1577	COLLECTION OF LITTLE SATION
7109/07/07	XXXXXIIIII1754ZX	\$\$\$\$\\$\\	7110	65	3152	894	10	70 - 80	1112	COEFFICIENTS OF UTILIZATION
7444144099	SSSSXIII 477568	888751	444	75	2901	312	7	80 - 90	687	Effective Floor Cavity Reflectance 20%
1009-117-17		201111	100	85	2447	79	7	90 - 100	260	
444411-69		9347-1111	444	90	1850	7	14	100 - 110	110	ROOM CAVITY RATIO
900	FFF FF		-900	95	1009	7		110 - 120	21	EN
	芸園 ノ 展	27-11-H-F	744	105	290	9		120 - 130	6	Cell, Wall 1 2 3 4 5 6 7 8 9 1
L800+++TT+		8574774	17800	115	80	7	14		5	50° 800 580 507 451 400 357 319 289 261 2 80° 80° 636 530 440 390 338 296 258 230 205 11
TILL HILL	3200 L. 1944 AM	X355-11-	1440	125	0	- 5	7	140 - 150	4	10' 806 489 403 343 282 251 216 190 166 1
440744044	XXXX 875 HHYXX	XXXXX	44.01	135	0	- 7	7	150 - 160	2	90° 851 565 494 440 391 349 312 283 256 2
-70° THE TOO	XXQXXQX####YXXX	XXXXXXX	170°	145	3	9	7	160 - 170	1	TO* 30* 621 .519 .441 .383 .333 .291 .255 .227 .202 .1
174.174.0XX	XXXX41111114X	XXXX/X/X	V74	155	0	3	3	170 - 180	0	10' .594 .401 .397 .339 .290 .249 .214 .188 .165 .1
(60°) (740) (8XX	23/25/44/11114/53	XXXXX	600	165	3	3	3			90° 618 637 470 420 374 335 299 272 246 2
X"5XXXXXX	24 (1750 H T)	KXXXXX	XZ'70	175	0	2	0	Total	10651	60° 30° .593 .498 .425 .371 .323 .283 .248 .222 .197 .1
	O BACK!	3208XX	\times	180	1	- 1	1			10° .570 .466 .387 .332 .284 .245 .211 .186 .163 .1
G. XXXX	1099 JHILL		250						_	90° .987 .910 .448 .401 .398 .321 .297 .201 .237 .2
XXXXXXX	ACCEPTANT	170000	×2305	1 "		_		-		90° 30° .967 .479 .409 .399 .313 .275 .242 .216 .193 .1
	2625	30/5/X/X		1 1/			\rightarrow		\	10" .548 .451 .377 .325 .278 .241 .207 .183 .160 .1
XXXXX		-DOD	×/×	1 21/−					-H I	50' .559 .496 .427 .383 .343 .306 .276 .252 .229 .3
		17-17-17	\sim	1 /	/ /		+	~ / /	. V I	10° 30° .642 .490 .386 .347 .304 .268 .235 .211 .188 .1
(40°XXX)	-III-H-T	PRONT	C400	1 1	μ	X	\Rightarrow		u i	10" .627 .437 .367 .317 .273 .236 .204 .190 .168 .1
VVVVV	- 1 3500 T	4111	5//	1 1/	∖ li	///	+,	/////	/ /I I	(y 0° .511 .421 .351 .302 .258 .222 .190 .167 .145 .1
XXXX	77-7-1-1	777	20	4.1	$\Lambda \Lambda$	UC		BCDE	f	*Percent Reflectorics
XXXX	4275	7			M	W.	\forall	XXX	´ `	ISOFOOTCANDLE CHART:
	4070	1-1-6	-5/	I -1 −	_	$\Rightarrow \Rightarrow$	=		-	Footcandle Values for Isofootcandle Lines
N. I. I. I.	7	17-1-1		1			_			Mtg. Hgt. A B C D E F
30° X X	-7-1	1-1-1-1	(_30°	-2						10' 20.00 10.00 5.00 2.00 1.00 0.50
XXXI	5250	1-1-1-	5-0	1 1						12 13.89 6.94 3.47 1.39 0.69 0.35
THE THE	7-6-1-	10-1-	20	1						16' 7.81 3.91 1.95 0.78 0.39 0.20
M-7-7-	I-+-+-	1-1-1-		1 3	-2	-1	-	1 2		20' 5.00 2.50 1.25 0.50 0.25 0.13
					160	- 1			0	25' 3.20 1.60 0.80 0.32 0.16 0.08

4

EVLS Hazard•Gard®

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire

CI. I, Div. 1, Groups B (with suffix GB), C, D
CI. I, Zone 1, Group IIB + H₂ (with suffix GB)
CI. II, CI. III & Simultaneous Presence

UL and cUL Listed
Wet locations (UL1598),
Marine locations (UL1598A)
Type 4X, IP66

Ordering Information — Pulse Start Metal Halide:









			PENDANT			BULKHEAD	
Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard
	3/4"	EVLSA92150-S828	EVLSA92151-S828	EVLSA92152-S828	EVLSBH92150-S828	EVLSBH92151-S828	EVLSBH92152-S828
	1"	EVLSA93150-S828	EVLSA93151-S828	EVLSA93152-S828			
150W	11/2"						
	25 mm	EVLSA925150-S828	EVLSA925151-S828	EVLSA925152-S828	EVLSBH925150-S828	EVLSBH925151-S828	EVLSBH925152-S828
	32 mm	EVLSA932150-S828	EVLSA932151-S828	EVLSA932152-S828			
	3/4"	EVLSA92170-S828	EVLSA92171-S828	EVLSA92172-S828	EVLSBH92170-S828	EVLSBH92171-S828	EVLSBH92172-S828
	1"	EVLSA93170-S828	EVLSA93171-S828	EVLSA93172-S828			
175W	11/2"						
	25 mm	EVLSA925170-S828	EVLSA925171-S828	EVLSA925172-S828	EVLSBH925170-S828	EVLSBH925171-S828	EVLSBH925172-S828
	32 mm	EVLSA932170-S828	EVLSA932171-S828	EVLSA932172-S828			

Ordering Information — Pulse Start Metal Halide:









			WALL			CEILING	
Wattage		No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard
	Size						
	3/4"	EVLSBX92150-S828	EVLSBX92151-S828	EVLSBX92152-S828	EVLSCX92150-S828	EVLSCX92151-S828	EVLSCX92152-S828
	1"	EVLSBX93150-S828	EVLSBX93151-S828	EVLSBX93152-S828	EVLSCX93150-S828	EVLSCX93151-S828	EVLSCX93152-S828
150W	11/2"						
	25 mm	EVLSBX925150-S828	EVLSBX925151-S828	EVLSBX925152-S828	EVLSCX925150-S828	EVLSCX925151-S828	EVLSCX925152-S828
	32 mm	EVLSBX932150-S828	EVLSBX932151-S828	EVLSBX932152-S828	EVLSCX932150-S828	EVLSCX932151-S828	EVLSCX932152-S828
	3/4"	EVLSBX92170-S828	EVLSBX92171-S828	EVLSBX92172-S828	EVLSCX92170-S828	EVLSCX92171-S828	EVLSCX92172-S828
	1"	EVLSBX93170-S828	EVLSBX93171-S828	EVLSBX93172-S828	EVLSCX93170-S828	EVLSCX93171-S828	EVLSCX93172-S828
175W	11/2"						
	25 mm	EVLSBX925170-S828	EVLSBX925171-S828	EVLSBX925172-S828	EVLSCX925170-S828	EVLSCX925171-S828	EVLSCX925172-S828
	32 mm	EVLSBX932170-S828	EVLSBX932171-S828	EVLSBX932172-S828	EVLSCX932170-S828	EVLSCX932171-S828	EVLSCX932172-S828

Cl. I, Div. 1, Groups B (with suffix GB), C, D Cl. I, Zone 1, Group IIB + H₂ (with suffix GB) Cl. II, Cl. III & Simultaneous Presence

UL and cUL Listed Wet locations (UL1598), Marine locations (UL1598A) Type 4X, IP66

Compact & Rugged, Class I, Zone 1, **Div. 1 Explosionproof Luminaire**

Ordering Information — Pulse Start Metal Halide (Cont'd):





STANCHION	ADAPTER

Luminaire less mounting

Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard	module and guard
150W	Adapter 3/4" 1" 11/2" 25 mm 32 mm	EVLSJ95150-S828	EVLSJ95151-S828	EVLSJ95152-S828		EVLSM9151-S828	EVLSM9152-S828	EVLS9150-S828
175W	Adapter 3/4" 1" 11/2" 25 mm 32 mm	EVLSJ95170-S828	EVLSJ95171-S828	EVLSJ95172-S828		EVLSM9171-S828	EVLSM9172-S828	EVLS9100-S828 EVLS9170-S828

Complete catalog number as	Standard \	Standard Voltage Ballasts									
follows:	NEC/UL										
Voltage	Multi-tap	120V	480V								
Suffix	/MT	/120	/480								

EVLS Hazard•Gard®

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire CI. I, Div. 1, Groups B (with suffix GB), C, D
CI. I, Zone 1, Group IIB + H₂ (with suffix GB)
CI. II, CI. III & Simultaneous Presence

UL and cUL Listed
Wet locations (UL1598),
Marine locations (UL1598A)
Type 4X, IP66

Ordering Information — Metal Halide:









			PENDANT			BULKHEAD	
Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard
	3/4"	EVLSA92070	EVLSA92071	EVLSA92072	EVLSBH92070	EVLSBH92071	EVLSBH92072
	1"	EVLSA93070	EVLSA93071	EVLSA93072			
70W	11/2"						
	25 mm	EVLSA925070	EVLSA925071	EVLSA925072	EVLSBH925070	EVLSBH925071	EVLSBH925072
	32 mm	EVLSA932070	EVLSA932071	EVLSA932072			
	3/4"	EVLSA92100	EVLSA92101	EVLSA92102	EVLSBH92100	EVLSBH92101	EVLSBH92102
	1"	EVLSA93100	EVLSA93101	EVLSA93102			
100W	11/2"						
	25 mm	EVLSA925100	EVLSA925101	EVLSA925102	EVLSBH925100	EVLSBH925101	EVLSBH925102
	32 mm	EVLSA932100	EVLSA932101	EVLSA932102			
	3/4"	EVLSA92170	EVLSA92171	EVLSA92172	EVLSBH92170	EVLSBH92171	EVLSBH92172
	1"	EVLSA93170	EVLSA93171	EVLSA93172			
175W†	11/2"						
-	25 mm	EVLSA925170	EVLSA925171	EVLSA925172	EVLSBH925170	EVLSBH925171	EVLSBH925172
	32 mm	EVLSA932170	EVLSA932171	EVLSA932172			

†Export only.

Complete catalog number	Standard	Standard Voltage Ballasts											
	NEC/UL				CEC/C	CSA (cUL)				Export	t		
Voltage	Multi-tap	120V	480V	Tri-Tap	120V	208V CWI	240V CWI	480V CWI	600V CWI	220V 60 Hz	220V 50 Hz	230V* 50 Hz	240V 50 Hz
Suffix	/MT	/120	/480	/TT	/120	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/230 50	/240 50

*Available for 175W only.

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire CI. I, Div. 1, Group B (with suffix GB), C, D CI. I, Zone 1, Group IIB + H₂ (with suffix GB) CI. II, CI. III & Simultaneous Presence UL and cUL Listed Wet locations (UL1598) Marine locations (UL1598A) Type 4X, IP66

Ordering Information — Metal Halide (Cont'd):









			WALL			CEILING	
Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard
	3/4"	EVLSBX92070	EVLSBX92071	EVLSBX92072	EVLSCX92070	EVLSCX92071	EVLSCX92072
	1"	EVLSBX93070	EVLSBX93071	EVLSBX93072	EVLSCX93070	EVLSCX93071	EVLSCX93072
70W	11/2"						
	25 mm	EVLSBX925070	EVLSBX925071	EVLSBX925072	EVLSCX925070	EVLSCX925071	EVLSCX925072
	32 mm	EVLSBX932070	EVLSBX932071	EVLSBX932072	EVLSCX932070	EVLSCX932071	EVLSCX932072
	3/4"	EVLSBX92100	EVLSBX92101	EVLSBX92102	EVLSCX92100	EVLSCX92101	EVLSCX92102
	1"	EVLSBX93100	EVLSBX93101	EVLSBX93102	EVLSCX93100	EVLSCX93101	EVLSCX93102
100W	11/2"						
	25 mm	EVLSBX925100	EVLSBX925101	EVLSBX925102	EVLSCX925100	EVLSCX925101	EVLSCX925102
	32 mm	EVLSBX932100	EVLSBX932101	EVLSBX932102	EVLSCX932100	EVLSCX932101	EVLSCX932102
	3/4"	EVLSBX92170	EVLSBX92171	EVLSBX92172	EVLSCX92170	EVLSCX92171	EVLSCX92172
	1"	EVLSBX93170	EVLSBX93171	EVLSBX93172	EVLSCX93170	EVLSCX93171	EVLSCX93172
175W†	11/2"						
	25 mm	EVLSBX925170	EVLSBX925171	EVLSBX925172	EVLSCX925170	EVLSCX925171	EVLSCX925172
	32 mm	EVLSBX932170	EVLSBX932171	EVLSBX932172	EVLSCX932170	EVLSCX932171	EVLSCX932172
†Export only.							

Complete catalog number as	Standard Voltage Ballasts												
follows:	NEC/UL			CEC/CSA (cUL)				Export					
Voltage	Multi-tap	120V	480V	Tri-Tap	120V	208V CWI	240V CWI	480V CWI	600V CWI	220V 60 Hz	220V 50 Hz	230V* 50 Hz	240V 50 Hz
Suffix	/MT	/120	/480	/TT	/120	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/230 50	/240 50

^{*}Available for 175W only.

CI. I, Div. 1, Group B (with suffix GB), C, D CI. I, Zone 1, Group IIB + H₂ (with suffix GB) CI. II, CI. III &

Simultaneous Presence

UL and cUL Listed Wet locations (UL1598) Marine locations (UL1598A) Type 4X, IP66

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire

Ordering Information — Metal Halide (Cont'd):



STANCHION



ADAPTER



Wattage	Hub Size	No Guard	Wire Guard	Cast Guard	No Guard	Wire Guard	Cast Guard	Luminaire less mounting module and guard
7014/	Adapter				EVLSM9070	EVLSM9071	EVLSM9072	EVLS9070
70W	11/2"	EVLSJ95070	EVLSJ95071	EVLSJ95072				
10011	Adapter				EVLSM9100	EVLSM9101	EVLSM9102	EVLS9100
100W	11/2"	EVLSJ95100	EVLSJ95101	EVLSJ95102				
175W†	Adapter 3/4"				EVLSM9170	EVLSM9171	EVLSM9172	EVLS9100 EVLS9170

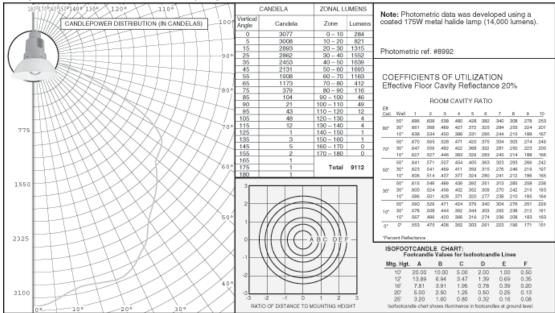
. $1\frac{1}{2}$ " EVLSJ95170 EVLSJ95171 EVLSJ95172 †Export only.

Complete catalog number as	Standard	Standard Voltage Ballasts											
follows:		NEC	/UL		CEC/CSA (cUL)			Export					
Voltage	Multi-tap	120V	480V	Tri-Tap	120V	208V CWI	240V CWI	480V CWI	600V CWI	220V 60 Hz	220V 50 Hz	230V* 50 Hz	240V 50 Hz
Suffix	/MT	/120	/480	/TT	/120	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/230 50	/240 50

^{*}Available for 175W only.

EVLS Metal Halide:

Fixture with Globe and Domed Reflector (less guard) EVLSA92170RD725 Lamp: 150W/ED17 Metal Halide (MH)



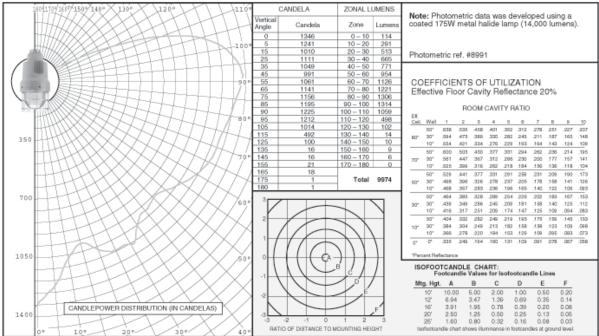
Crouse-Hinds

4L EVLS Hazard•Gard®

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire CI. I, Div. 1, Group B (with suffix GB), C, D CI. I, Zone 1, Group IIB + H₂ (with suffix GB) CI. II, CI. III & Simultaneous Presence UL and cUL Listed Wet locations (UL1598) Marine locations (UL1598A) Type 4X, IP66

EVLS Metal Halide:

Fixture with Globe and Guard EVLSA92171 Lamp: 175W/ED17 Metal Halide (MH)



EVLS Metal Halide:

Fixture with Globe and Angled Reflector (less guard) EVLSA92170RA725

Lamp: 175W/ED17 Metal Halide (MH)

			418041707160%1500X	140%		CANDE	1.A.		ZONAL LI	IMENS	
il l	XX	XXXXX	TT+1-12-12-12-12-12-12-12-12-12-12-12-12-12	$\times \times$	Vertical					DMLINO	Note: Photometric data was developed using a
				> < >	Angle	Front :	Side	Back	Zone	Lumens	coated 175W metal halide lamp (14,000 lumens).
	130°X	XXXXXXX	+++++25 4242	130	0		2902	2902	0 - 10	262	
	$\times \times$	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		$\times\!\!\times\!\!\times$	- 5		2803	2669	10-20	726	
		CANDI EDOMED DI	STRIBUTION (IN CANDELAS)	$\times \! \wedge \! \times$	15 25		2522 2562	2125 1885	20 - 30 30 - 40	1159	Photometric ref. #8993
	120%	CANDLEPOWER DI	STRIBUTION (IN CANDELAS)	120	35		2330	1283	40 - 50	1393	
- I I	405	(>>>>>)		OHT	45		1939	431	50 - 60		
	11007	55555555	}} <i> </i>	1110	55		1681	87	60 - 70	1105	COEFFICIENTS OF UTILIZATION
	4477	7275005000	HTTH///////	14	65		734	0	70 - 80	866	Effective Floor Cavity Reflectance 20%
	10001	HID9999XXX	# ###	7-100	75	2345	267	0	80 - 90	522	Enough the transfer of the tra
	777			110	85 90	1862	65	13	90 - 100 100 - 110	216 86	ROOM CAVITY RATIO
1 1	++oe+		PROM		95	738	3	68	110 - 120	17	EV.
	1	+++++		HI.	105	262	2		120 - 130	2	Cell, Wall 1 2 3 4 5 6 7 8 9 10 50° 854 589 500 446 398 356 319 289 262 239
1 1	LBO+T			7180	115	71	6	26	130 - 140	2	80° 804 509 500 446 308 300 319 28 282 239 80° 80° 623 523 446 389 309 298 261 234 208 187
1 1	4++1	1-	TI-122-COOXXIMILLER.	7441	125	0	2	3		1	10" .595 .484 .402 .345 .296 .256 .221 .195 .172 .152
1 1	170 · I	2 <i>520000</i>	Q-CXXXXIIIHere	7-900	135	0	3		150 - 160	0	50° .636 .555 .488 .436 .389 .349 .313 .284 .257 .235
1 1	140	2580000000	//////////////////////////////////////	7411	145	0	0		160 - 170 170 - 180	0	70° 30° .608 .513 .438 .383 .334 .294 .258 .231 .206 .185
1 1	17.74		######################################	4/14	165	0	0	0	170 - 180		10' 503 477 397 341 293 254 219 394 371 151 50' 604 528 465 417 373 335 300 273 248 227
	7605	XXXXXIV-7.	<u> </u>	/760°	175	6	5	3	Total	9029	60° 504 528 466 417 373 336 300 273 248 227 60° 30° 581 403 422 371 324 286 252 225 201 181
1 1	$\times\times\times$	2600001254	250111145XXXX	ZXZ	180	- 1	- 1	1			10* 560 .462 .387 .334 .288 .250 .216 .191 .168 .150
1 1	(50°C)	XXXX Hade	44111174068XX	X(7							50' 575 503 444 399 367 322 289 263 239 219
	X (X)		HILLYXXX	× 50°	1 1		_	-	\neg		30° 30° .556 .474 .408 .359 .315 .279 .245 .220 .197 .177
	\times	XXXXXX	1625	787	1 .	///	1			, I I	10" .539 .448 .377 .327 .292 .246 .213 .189 .166 .148
1 1	\times	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	1-	$\times \times \times$	1 2	///			XX	\Box	50' 548 480 425 382 343 309 278 254 231 212 10' 30' 533 459 394 348 306 271 239 215 193 174
	4000	COCHI	HUNDON	/\/	1 17	1/		\rightarrow	/ / /	11	10" 30" 533 .696 .396 .368 .306 .271 .239 .216 .163 .176 10" .519 .434 .368 .320 .277 .242 .210 .196 .164 .146
1 1	$\times \times$			400	1 1H	-11/	1		X 111	<i>†</i> 1	gr 0' 505 .419 .353 .305 .263 .226 .196 .173 .152 .134
1 1	X	A4-101-3	500	X/)	1 1	W	[[/.	\triangle	NIN III	/ I I	
1 1	\times	7-1-I			1 ∘⊩	111	W.	¥^	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<u> </u>	"Percent Reflectance
		<i>193</i>		8	1 .		1	\$			ISOFOOTCANDLE CHART: Footcandle Values for Isofootcandle Lines
1 1	\sim		1375	00	1 "			#		\neg	Mtg. Hgt. A B C D E F
	300	747-77			1 .						10' 20.00 10.00 5.00 2.00 1.00 0.50
1 1	K Z	7-7-7-		300	1 2			-		\neg	12' 13.89 8.94 3.47 1.39 0.89 0.35
1 1	1	444		7	1						16' 7.81 3.91 1.96 0.78 0.39 0.20
1 1	7		3250	3	3	-2	-1	-	+ 2		20' 5.00 2.50 1.25 0.50 0.25 0.13
	7	T		20		-			DUNTING HER	OHT	25' 3.20 1.60 0.80 0.32 0.16 0.08 Isofootoandie chart shows illuminance in footoandies at ground level.
	72	100-	100 20		1 70		and the second	oc row	June 11 Inc. 11 Ex		necessariam crisis anoma manimismo in consumera in ground lover

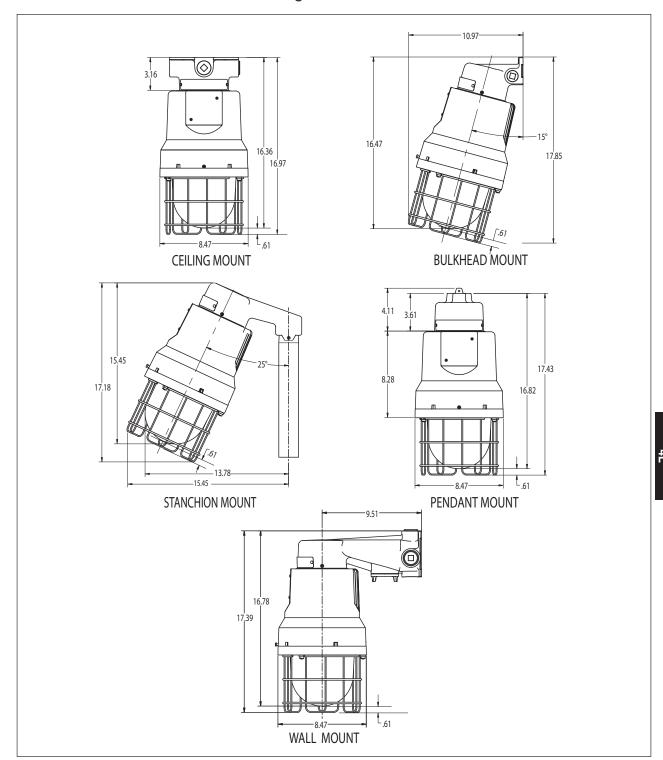
4

Type 4X, IP66

EVLS Hazard•Gard®

Compact & Rugged, Class I, Zone 1, Div. 1 Explosionproof Luminaire CI. I, Div. 1, Group B (with suffix GB), C, D CI. I, Zone 1, Group IIB + H₂ (with suffix GB) CI. II, CI. III & Simultaneous Presence

Dimensions - Shown with new mounting modules:



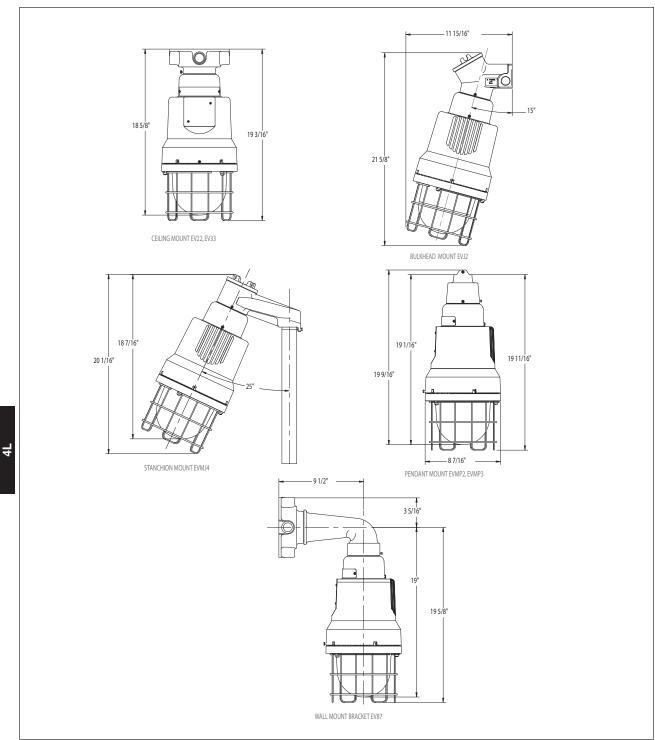
EVLS Hazard•Gard® 4L

Compact & Rugged, Class I, Zone 1, **Div. 1 Explosionproof Luminaire**

Cl. I, Div. 1, Group B (with suffix GB), C, D Cl. I, Zone 1, Group IIB + H₂ (with suffix GB) Cl. II, Cl. III & Simultaneous Presence

UL and cUL Listed Wet locations (UL1598) Marine locations (UL1598A) Type 4X, IP66

Dimensions - Shown with existing mounting modules plus EVSA Adapter:



4

EVLP Low Profile Hazard•Gard® (H.I.D.) Luminaires

Medium and Mogul Base

CI. I, Div. 1, Groups B (GB suffix), C, D
CI. I, Zone 1, Groups IIB + H₂ (with suffix – GB), IIB, IIA
CI. II, Div. 1, Groups E, F, G; Class III

Marine & Wet Locations 3, 3R, 4, 4X; IP66 4L

Applications:

Eaton's Crouse-Hinds Low Profile Hazard • Gard • luminaires are used in:

- Areas where flammable or explosive vapors or gases are present
- Hazardous areas, both indoors and outdoors, where long life and low maintenance costs are desired
- Petroleum refineries, chemical, petrochemical and pharmaceutical plants, oil terminals, gas plants and other heavy process industry facilities
- · Waste treatment facilities
- Drilling platforms and other coastal and offshore hazardous areas

Features and Benefits:

- Small, compact size is perfect where low mounting restrictions are a concern.
- Two start Acme threaded construction allows for easier assembly, installation and maintenance.
- Lightweight copper-free aluminum housing with powdered epoxy finish for superior corrosion resistance.
- All exterior hardware is corrosionresistant stainless steel.
- Four mounting arrangements: pendant, ceiling, wall bracket and stanchion suit any lighting layout.
- Wide range of light sources and wattages to meet specific lighting needs.
- Marine and NEMA 4X construction suitable for outdoor, hose down, marine and corrosive environments.
- Integral ballast for lowest installed cost.
- High power factor (90%+) ballasts allows more fixtures per circuit.
- Uses same mounting modules as the standard Hazard•Gard® for easy retrofitting when the EVLP is the preferred choice.
- Internally fluted glass globe reduces glare and distributes light evenly – ideal for adverse environments typical of industrial facilities.
- Krydon® construction dome and angle reflectors – won't rust, corrode, dent, chip or peel
- Now available in components luminaire body, mounting module, guard, reflectors – allowing for easy stocking for Quick Ship requirements.



Certifications and Compliances:

• NEC and CEC:

Class I, Division 1, Groups B (with suffix GB), C, D – All Wattages Class I, Zone 1, Groups IIB + H₂ (with suffix GB), IIB, IIA – All Wattages Class II and Class III

 UL Standards: 844, Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations

• CSA Standards C22.2 No. 137

Standard Materials:

- Mounting modules, cover, ballast housing, globe holder – copper-free aluminum
- · Globe heat and impact resistant glass
- Exterior hardware stainless steel
- Reflectors (dome & angle) Krydon[®] fiberglass-reinforced polyester

Standard Finishes:

- Copper-free aluminum Corro-free[™] powdered epoxy
- Krydon white
- Stainless steel guard

Ratings (Electrical/Size):

Sources/Wattage:

- Medium Base 70–150W HPS, 70–175W MH
- Mogul Base 70–150W HPS, 70–250W MH

Voltages:

 Medium & Mogul H.I.D.
 120V 60Hz
 Multi-tap (120, 208, 240, 277V 60Hz)
 Tri-tap (120, 277, 347V 60Hz)
 480V 60Hz
 Other voltages – consult Eaton's Crouse-Hinds

Conduit Entries:

- 3/4", 1" NPT pendant, wall bracket, ceiling
- 11/4" NPT stanchion

Options:

Description	Suffix
Group B suitability	GB
Ballast-Gard™ (HPS only)	BG
Instant restrike (Mogul Base only)	IR
70–150W LX HPS	
Cannot use with BG Option	
Fused (not suitable for marine applications)	S658*
Quartz auxiliary lighting	
(Mogul Base only)	QTZ
Cannot use with IR option	
Uses 100W single ended double contract lamp	
Quartz lamp not included	
Factory assembled with lamps	FA
*When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.	

Accessories:

Description	Cat. #
Dome reflector	RD739
Anale reflector	BA739

Medium Base

Pendant

Cl. I, Div. 1, Groups B (GB suffix), C, D Cl. I, Zone 1, Groups IIB + H₂ (with GB suffix), IIB, IIA Cl. II, Div. 1, Groups E, F, G; Class III

Wall Bracket

Marine & Wet Locations 3, 3R, 4, 4X; IP66

Stanchion

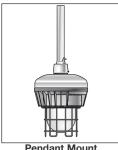
EVI D 1404474 C000

Luminaire Body Less Mounting

Module & Guard

EVLP19175 S828

Ordering Information:



Pendant Mount

175W 1



Ceiling

†Wall Bracket Mount



4

†Ceiling Mount

	11/4				EVLPJ194171 S8	28
Metal	Halide					
	3/4	EVLPA192071	EVLPBX192071	EVLPCX192071		EVLP19070
70W	1	EVLPA193071	EVLPBX193071	EVLPCX193071		
	11/4				EVLPJ194071	
	3/4	EVLPA192101	EVLPBX192101	EVLPCX192101		EVLP19100
100W	1	EVLPA193101	EVLPBX193101	EVLPCX193101		
	11/4				EVLPJ194101	
	3/4	EVLPA192171	EVLPBX192171	EVLPCX192171		EVLP19175
175W	1	EVLPA193171	EVLPBX193171	EVLPCX193171		
	11/4				EVLPJ194171	

EVLPA192171 S828 EVLPBX192171 S828 EVLPCX192171 S828

EVLPA193171 S828 EVLPBX193171 S828 EVLPCX193171 S828

Complete Catalog Number as follows:



Stanchion Mount

Complete	Catalog	Nullibei	as	ioliows.	
Standard Voltag	no Pollocto 60	\L-			

		NEC/UL		CEC/CS	A (cUL)
Voltage	Multi Tap	120V	480V	Tri Tap	120V
Suffix	/MT	/120	/480	/Π	/120

*CEC/CSA (cUL)- CWI Isola Voltage 600V CWI /600CWI 220V 60Hz /220 240V 50Hz /240 50 Suffix

^{2. 150}W HPS Luminaires only

^{• 55}V lamps – add suffix "LX" • 100V lamps – add suffix "CE"

[†]Ceiling and bracket mounts have 4 hubs: 3 are plugged.

^{*}CWI Isolated Ballasts are only available for high pressure sodium and 175W metal halide (non pulse start) luminaires.

Luminaire Body

EVLP09150S828

EVLP09170S828

EVLPJ094151S828

EVLPJ094171S828

EVLPJ094251

Marine & Wet Locations

3, 3R, 4, 4X; IP66

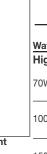
EVLP Low Profile Hazard • Gard®

Mogul Base

Cl. I, Div. 1, Groups B (GB suffix), C, D Cl. I, Zone 1, Groups IIB + H₂ (with GB suffix), IIB, IIA Cl. II, Div. 1, Groups E, F, G; Class III

Ordering Information:





Less Mounting Module & Guard Pendant **Wall Bracket** Ceiling Stanchion With Guard With Guard With Guard With Guard Cat. # Cat. # Cat. # Cat. # Cat. # Watt Size (In.) High Pressure Sodium EVLPBX042071 3/4 EVLPA042071 EVLPCX042071 EVLP04070 EVLPCX043071 70W EVLPA043071 EVLPBX043071 11/4 EVLPJ044071 3/4 EVLPA042101 EVLPBX042101 EVLPCX042101 EVLP04100 100W EVLPA043101 EVLPBX043101 EVLPCX043101 11/4 EVLPJ044101 EVLPA042151 EVLPBX042151 EVLPCX042151 EVLP04150 150W EVLPA043151 EVLPBX043151 EVLPCX043151 EVLPJ044151

S828

S828

S828

S828



†Wall Bracket Mount

	I '/4		
Pulse	Start	Metal Halide	
	3/4	EVLPA092151S828	EVLPBX092151
150W	1	EVLPA093151S828	EVLPBX093151
	11/4		
	3/4	EVLPA092171S828	EVLPBX092171
175W	1	EVLPA093171S828	EVLPBX093171
	11/4		
	3/4	EVLPA092201S828	EVLPBX092201
200W	1	EVLPA093201S828	EVLPBX093201
	11/4		
	3/4	EVLPA092251S828	EVLPBX092251
250W	1	EVLPA093251S828	EVLPBX093251
	11/4		

S828 EVLPCX092201S828 EVLP09201S828 EVLPCX093201S828 S828 EVLPJ094201S828 S828 EVLPCX092251S828 EVLP09250S828 S828 EVLPCX093251S828 EVI D 100/2515929

EVLPCX092151S828

EVLPCX093151S828

EVLPCX092171S828

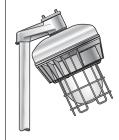
EVLPCX093171S828



†Ceiling Mount

	1 7/4				EVLPJ09423136	20
Meta	Halide					
	3/4	EVLPA092071	EVLPBX092071	EVLPCX092071		EVLP09070
70W	1	EVLPA093071	EVLPBX093071	EVLPCX093071		
	11/4				EVLPJ094071	
	3/4	EVLPA092101	EVLPBX092101	EVLPCX092101		EVLP09100
100W	1	EVLPA093101	EVLPBX093101	EVLPCX093101		
	11/4				EVLPJ094101	
	3/4	EVLPA092171	EVLPBX092171	EVLPCX092171		EVLP09170
175W	1	EVLPA093171	EVLPBX093171	EVLPCX093171		
	11/4				EVLPJ094171	
	3/4	EVLPA092251	EVLPBX092251	EVLPCX092251		EVLP09250
250W	1	EVLPA093251	EVLPBX093251	EVLPCX093251		

Complete Catalog Number as follows:



Standard Voltage 1.	Ballasts - 60Hz	NEC/UL	CEC/CS	A (cUL)	
Voltage	Multi Tap	120V	480V	Tri Tap	120V
Suffix	/MT	/120	/480	/TT	/120

Optional Voltage Ballasts - 50 or 60Hz
*CEC/CSA (cUL)- CWI Isolated Ballasts 240V CWI /240CWI

11/4

†Ceiling and wall bracket mounts have 4 hubs: 3 are plugged.

*CWI Isolated Ballasts are only available for high pressure sodium and 175W-250W metal halide (non pulse start) luminaires.

Stanchion Mount

 ¹⁵⁰W HPS Luminaires only
 55V lamps – add suffix "LX"
 100V lamps – add suffix "CE"
 Example: EVLPA043151/MT-LX

4L EVLP Low Profile Hazard • Gard®

Ordering by Components

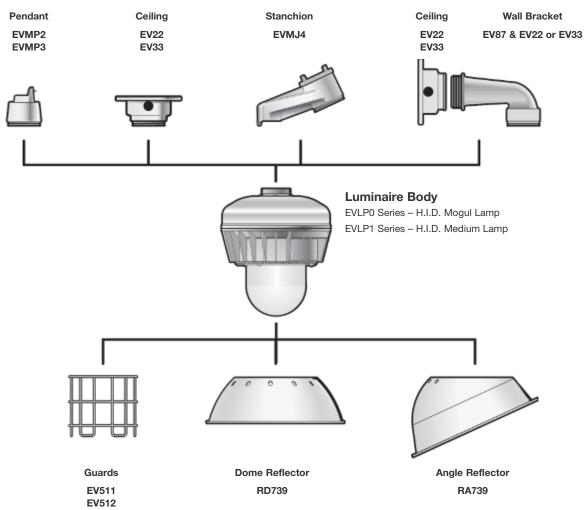
EVLP Luminaires are available in components.

A complete luminaire consists of:

- Mounting Module
- Luminaire Body
- Guard, Dome Reflector or Angle Reflector

Mounting Modules:

Туре	Conduit	Cat. #	
Pendant	⁹ / ₄ " 1"	EVMP2 EVMP3	
Ceiling & Wall Box	⁹ / ₄ " 1"	EV22 EV33	
Wall Bracket Arm	Use EV22 or EV33 box with EV87	EV87	
Stanchion	11/4"	EVMJ4	
Guards Medium Mogul		EV511 EV512	
Reflectors Dome Angle		RD739 RA739	



-	

Medium Base Lamp Luminaires:									
		Class I, 0 (w/GB su Groups 0	ıffix)		Class II, Groups E, Class III Simultaneous Presence	, F, G			
Maximum Ambient	Watts	40°C	55°C	65°C	40°C	Supply Wire °C			
High Pressure Sodium	70W 100W 150W	T5 T4A T4	T4A T4A T3C	T4A T4 —	T4A T4 —	90°C 90°C 90°C			
Metal Halide (including pulse start)	70W 100W 150W 175W	T5 T3C T3C T3C	T4A T3C T3B T3B	T4A 	T4 — — —	85°C 90°C 90°C 90°C			

Mogul Base Lamp Luminaires:

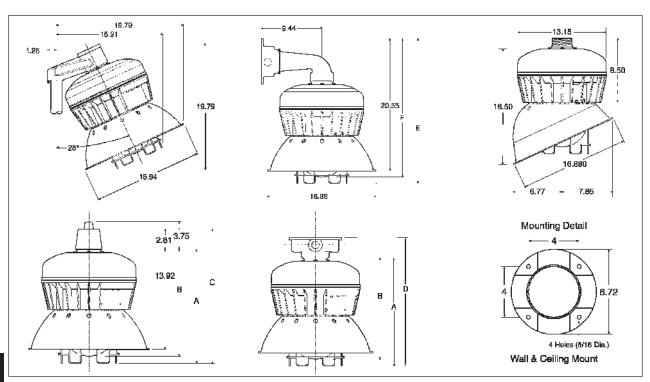
		Class I, Group B (w/GB suffix) Groups C, D			Class II, Groups E, I Class III Simultaneous Presence	F, G
Maximum Ambient	Watts	40°C	55°C	65°C	40°C	Supply Wire °C
	70W	T6	T5	T5	T5	90°C
High Pressure Sodium	100W	T5	T4A	_	T4A	90°C
3	150W	T4A	T4	_	T4	90°C
	70W	T6	T5	T5	T5	85°C
	100W	T5	T4A	T4A	T4A	90°C
Metal Halide	150W	T4	T3C	_	T3C	90°C
(including pulse start)	175W	T4	T3C	_	T3C	90°C
,	200W	T3C	_	_	_	90°C
	250W	T3C	_	_	_	90°C

4L EVLP Low Profile Hazard•Gard®

Dimensions and Weights

Dimensions In Inches:

	Α	В	С	D	E	F
Medium Base	13.92	12.73	16.50	16.71	20.59	19.36
Mogul Base	15.69	14.69	18.25	18.46	22.34	21.30





Weights (lbs.):

()		Luminaire w/gua	ırd	
Source	Watts	Medium	Mogul	
High Pressure Sodium				
· ·	70	34	36.5	
	100	36	38.5	
	150	36.5	39	
Metal Halide				
	70	33.5	36	
	100	34.5	37	
	150	36	38.5	
	175	36	38.5	
	200	_	40.5	
	250	_	40.5	
		Medium	Mogul	
Add Mounting Modules:				
Pendant		1	1	
Ceiling		2	2	
Bracket		4.5	4.5	
Stanchion		2.5	2.5	
Add For Reflectors:				
RA739		1	1	
RD739		1	1	
Deduct for Wire Guard		0.5	0.5	
			0	

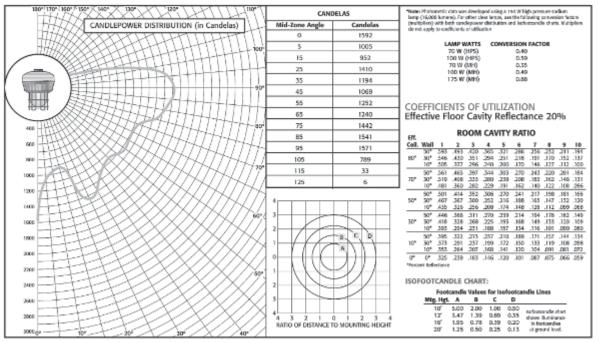
EVLP Low Profile Hazard•Gard®

Medium Base

Medium Base

Luminaire with Globe and Guard

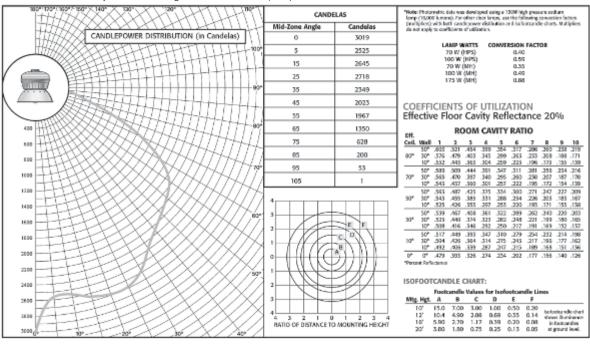
EVLPA143151 Lamp: 150W/B17 High Pressure Sodium (HPS)



Medium Base

Luminaire with Globe and Dome Reflector (Less Guard)

EVLPA143150RD Lamp: 150W/B17 High Pressure Sodium (HPS)



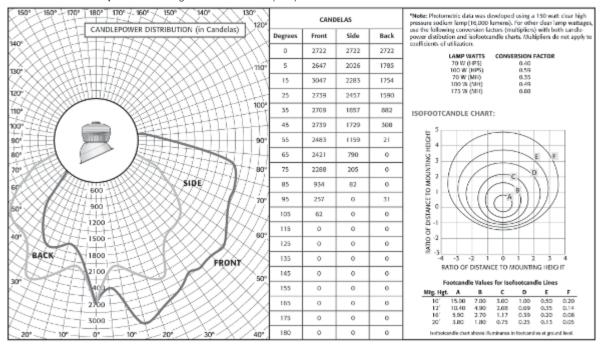
4L EVLP Low Profile Hazard • Gard®

Medium and Mogul Base

Medium Base

Luminaire with Globe and 30° Angle Reflector (Less Guard)

EVLPA143150RA Lamp: 150W/B17 High Pressure Sodium (HPS)



Mogul Base

4

Luminaire with Globe and Guard

EVLPA043151 Lamp: 150W/E23-1/2 High Pressure Sodium (HPS)

EVEL A040101 Lamp. 100W/L20-721 light 1 lessure obditing	,111 (3)				
180° 110° 110° 110° 110° 110° 110° 110°	CAND		ZONAL U	UMENS	*Motes Photometric data was developed using a 150 wall high pressure sedium lamp (16,000 kamen), not other dear lamp warrages, use the fit liveling convention factors.
CANDLEPOWER DISTRIBUTION (in Candelas)	Mid-Zone Angle	Candelas	With Zone	Lumens	(multiplien) with both candiapower distribution and isoloctomole charts. Multipliers do not apply to coefficients of utilization.
I ###XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	0	1944	0-10	140	LAMP WATTS CONVERSION FACTOR
	5	1541	10-20	337	70 W (HPS) 0.40
	15	1167	20-30	524	100 W (HPS) 0.59
_ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	25	1159	30-40	620	
	35	961	40-50	798	LUMINAIRE SPACING RATIO — 0.8 (Spacing to mounting height ratio)
[] [] [] [] [] [] [] [] [] []	45	1035	50-60	1030	
90"	55	1090	60-70	1353	COEFFICIENTS OF UTILIZATION
	65	1348	70-80	1640	Effective Floor Cavity Reflectance 20%
() () () () () () () () () ()	75	1566	80-90	1754	Effective Floor Cavity Reflectance 2010
─	85	1619	90-100	1749	ROOM CAVITY RATIO
	95	1612	100-110	1277	DY. Coll. Will 0 1 2 3 4 5 6 7 8 9 10
" \ttp:///////////////////////////////////	105	1226	110-120	306	707 01 50 61 55 50 45 41 50 55 53 31
	115	265	120-130	19	80° 90° 81 84 53 45 39 35 51 27 25 22 21
** HTTH/XXXXXXXXXXXX/174441 177444	125	19	130-140	- 8	30° 01 50 46 38 32 27 24 20 10 16 15
	135	10	140-150	- 5	10° 81 55 41 32 35 22 18 16 14 12 11
1 "" []	145	7	150-160	3	70° 77 85 57 51 40 42 59 35 33 31 29 70° 50° 77 65 50 43 57 55 29 26 25 21 15
I = 40 III + 10 20 X X X X X X X X X X X X X X X X X X	155	6	160-170	0	70° 50° 77 60 50 42 37 35 29 26 25 21 19 30° 77 56 44 35 33 25 22 19 17 15 14
I "[[]4402000XXXXXX/X//X///X////X///	165	0	170-180	0	10° 77 53 30 30 25 21 17 15 13 11 10
I = 80 III-14 IA28/AXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	175	0			90° 69 53 44 37 32 29 25 25 21 19 17
I "LL+t3/02/2/XXXXXX/X//X///X////	180	0			50° 30° 69 49 39 32 27 23 20 17 15 14 12
1 160 1-1-1-128-1-XXXXXXXXX/X//X///X///	3				10° 69 48 35 27 22 19 16 13 12 10 9
1 "H-130-12(X/X/X/X/X/X///\/\/					50° 61 48 38 32 28 25 22 20 18 16 15 30° 30° 61 44 34 28 34 30 17 15 14 12 11
1 130 H-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	الحساء				30° 30° 61 44 34 28 34 20 17 15 14 12 11 10° 61 41 31 24 30 16 14 12 10 9 8
I HM 1243/3/XX XX XX /X/ /X/ /X			D	No.	90° 54 40 33 28 24 21 19 17 16 14 13
1 100 F-1/-1-3L-1-3Z-X-X-X-X-X-X-/-X-/	I . I Z I.		10	V 2 I	10" 30" 54 38 30 24 30 17 15 13 12 11 10
I HETS-YXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	1 			1 1	10° 54 36 27 21 17 14 12 10 9 8 7
	I I/ /I	110	B \	1/ // /	0° 0° 51 33 24 18 15 12 10 8 7 6 6
	0		19) 1	-1) -1	Wescent Reference
1 189) F T T T T T T T T T T T T T T T T T T	1 IV VI	1 1	1217	1/ // '	ISOSOOTSANDI E SHADT.
	1111	_		1 /	ISOFOOTCANDLE CHART:
1 189 - T-T-Y-3-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X		/ /~		/1 / 1	Footcandle Values for Isofootcandle Lines
2250	.2	1			Mtg. Hgt. A B C D E
	1			4	107 10.00 5.00 2.00 1.00 0.50
199 THE THE TOTAL OF THE TOTAL		1			12' 6.84 3.47 1.39 0.69 0.35 tollower-fit dust
I "" [] - + T - T - T - X / X / X / / / /	-3 -2	-1	0 1	2 3	20' 2.50 1.25 0.50 0.25 0.13 Infortantia
		F DISTANCE T		G HEIGHT	25' 1.00 0.80 0.32 0.15 0.00 at ground level.
0° 10° 20° 30° × 40° /					

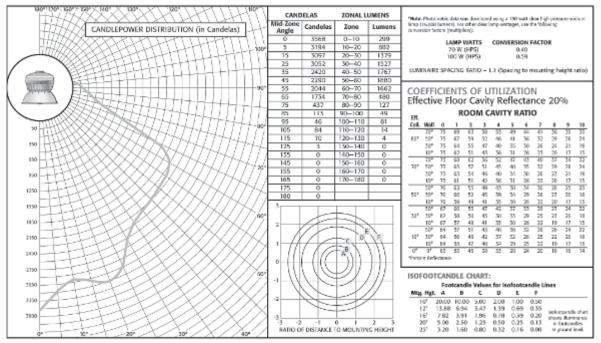
EVLP Low Profile Hazard•Gard®

Mogul Base

Mogul Base

Luminaire with Globe and Dome Reflector (Less Guard)

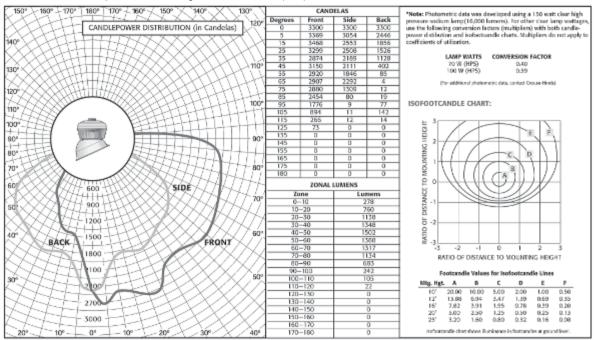
EVLPA043150RD Lamp: 150W/E23-1/2 High Pressure Sodium (HPS)



Mogul Base

Luminaire with Globe and 30° Angle Reflector (Less Guard)

EVLPA043150RA Lamp: 150W/E23-1/2 High Pressure Sodium (HPS)



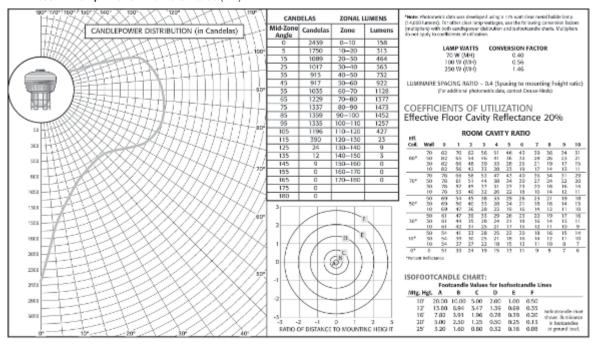
4L EVLP Low Profile Hazard • Gard®

Mogul Base

Mogul Base

Luminaire with Globe and Guard

EVLPA093171 Lamp: 175W/ED28 Metal Halide (MH)

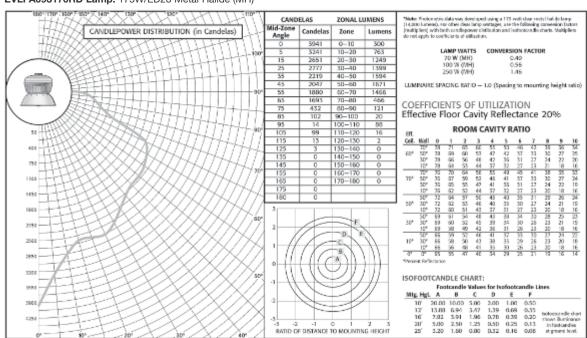


Mogul Base

4

Luminaire with Globe and Dome Reflector (Less Guard)

EVLPA093170RD Lamp: 175W/ED28 Metal Halide (MH)



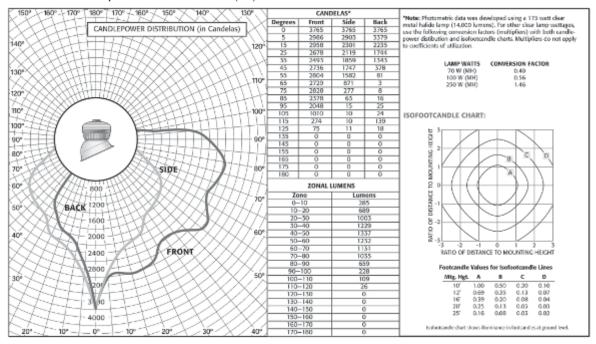
EVLP Low Profile Hazard • Gard®

Mogul Base

Mogul Base

Luminaire with Globe and 30° Angle Reflector (Less Guard)

EVLPA093170RA Lamp: 175W/ED28 Metal Halide (MH)



4L EVM Hazard•Gard® H.I.D. Luminaires

Mogul Base Factory Sealed (Groups C, D) Cl. I, Div. 1, Groups B (GB suffix), C, D Cl. I, Zone 1, Groups IIB + H₂ (with suffix - GB), IIB IIA Cl. II, Div. 1, Groups E, F, G; Class III

Paint Spray (100W max) Marine & Wet Locations 3, 3R, 4, 4X; IP66

Applications:

Hazard•Gard® luminaires are used in:

- Heavy process industries where flammable or explosive vapors, gases or combustible dusts are present
- Hazardous areas, both indoors and outdoors where long life and low maintenance costs are desired
- Petroleum refineries, chemical, petrochemical and other heavy process industry facilities
- · Paint spray facilities
- Hazardous locations requiring elevated ambient capability

Features:

- Luminaire is factory wired; power is fed through "wireless" connection block which serves as a mechanical seal between conduit and ballast compartments, eliminating the need for an external, field installed seal.
 The result is fast, easy installation.
- Dome and 30° angle reflectors made of Krydon® material – won't rust, corrode, dent, chip or peel (order separately – see page 1059).
- High bay reflectors of Alzak® aluminum for high wattage applications.
- Internally fluted glass globes reduce glare and provide comfortable viewing light.
- Wide range of light sources and wattages to meet specific lighting needs
 50 – 400W high pressure sodium (HPS); 70 – 400W metal halide (MH).
- High power factor (90%+) ballasts reduce power costs – allow more luminaires per circuit.
- Four mounting arrangements to suit any lighting layout – pendant, ceiling, wall bracket and stanchion.
- Paint spray booth suitability on 50 to 100 watt luminaires provides efficient, economical H.I.D. lighting for areas where paint residue may accumulate on luminaires.
- Elevated ambient capability permits reliable operation at high ambient temperature. Selected luminaires are suitable for ambient temperature up to 75°C.
- Integral ballasts separate ballasts are not required. Lowest installed cost.
- Factory sealed, porcelain, mogul base socket.



Certifications and Compliances:

- NEC and CEC:
 Class I, Division 1, Groups B
 (with suffix GB), C, D
 - Class I, Zone 1, Groups IIB + H_2 (with suffix GB), IIB, IIA 100W max Paint Spray Suitability
 - 175W max Class II, Class III
- UL Standards: 844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations
- CSA Standards:
 C22.2 No. 137

Standard Materials:

- Mounting modules, cover, ballast housing, guard, globe ring – copper-free aluminum
- Globe heat and impact resistant glass
- Exterior hardware stainless steel
- Lamp socket porcelain with stainless steel screw shell
- Reflectors dome and angle: Krydon fiberglass-reinforced polyester material; high bay: Alzak aluminum

Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Krydon high reflectance white
- Alzak natural (anodized)

Options:

Description

Suffix

IR*

QTZ‡

BG*

GB

S812

- Instant restrike enables a hot HPS lamp to immediately restrike after a momentary loss of arc due to voltage fluctuation or power outage. It has no effect on the warm-up period of a cold lamp (50-150W
- Ballast-GardTM to eliminate the normally continuous high voltage pulsing in the event of a cycling lamp, inoperative lamp, or no lamp in the socket extending the life of the ballast. (For use with 50-400W HPS lamps.)
- Group B suitability luminaires suitable for use in Class I, Group B hazardous (classified) locations.......
- Hazard•Gard® supplied with trunnion arm for floodlighting applications. For use on pendant mount luminaires only. See Floodlight Section

Size Ranges:

 3/4", 1" and 1¹/4" hubs (see ordering information – see pages 1057–1058)

Electrical Rating Ranges:

- 120, 208, 240, 277, 347, 480, 600, multi-tap*
- 50 to 400 watts

*IR and BG options cannot be used together.

†When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.

‡Can be used with BG option.

§CSA Certified are not available with multi-tap ballast or S658 fuse option.

Alzak is a registered trademark of ALCOA.

50-400W EVM Hazard•Gard® H.I.D. Luminaires

Mogul Base Factory Sealed (Groups C, D) Cl. I, Div. 1, Groups B (GB suffix), C, D Cl. I, Zone 1, Groups IIB + H₂ (with suffix GB), IIB, IIA Cl. II, Div. 1, Groups E, F, G; Class III

Paint Spray (100W max) Marine & Wet Locations 3, 3R, 4, 4X; IP66









		Pendant	Luminaires	Wall Bracket Luminaires		Ceiling Luminaires		Stanchion Luminaires (25°)	
Watts	Hub Size (In.)	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #
High Pr	essure So	odium							
	3/4	EVMA42050	EVMA42051	EVMBX42050	EVMBX42051	EVMCX42050	EVMCX42051		
50	1 1½	EVMA43050	EVMA43051	EVMBX43050	EVMBX43051	EVMCX43050	EVMCX43051	EVMJ44050	EVMJ44051
	3/4	EVMA42070	EVMA42071	EVMBX42070	EVMBX42071	EVMCX42070	EVMCX42071		
70	1	EVMA43070	EVMA43071	EVMBX43070	EVMBX43071	EVMCX43070	EVMCX43071		
	11/4							EVMJ44070	EVMJ44071
	3/4	EVMA42100	EVMA42101	EVMBX42100	EVMBX42101	EVMCX42100	EVMCX42101		
100	1	EVMA43100	EVMA43101	EVMBX43100	EVMBX43101	EVMCX43100	EVMCX43101		
	11/4							EVMJ44100	EVMJ44101
	3/4	EVMA42150	EVMA42151	EVMBX42150	EVMBX42151	EVMCX42150	EVMCX42151		
150	1	EVMA43150	EVMA43151	EVMBX43150	EVMBX43151	EVMCX43150	EVMCX43151	EVA 144450	EVB4 144454
	11/4							EVMJ44150	EVMJ44151
000	3/4	EVMA42200	EVMA42201	EVMBX42200	EVMBX42201	EVMCX42200	EVMCX42201		
200	1 11/4	EVMA43200	EVMA43201	EVMBX43200	EVMBX43201	EVMCX43200	EVMCX43201	EVMJ44200	EVMJ44201
								EVIVIJ44200	E V IVIJ 4420 I
050	3/4	EVMA42250	EVMA42251	EVMBX42250	EVMBX42251 EVMBX43251	EVMCX42250 EVMCX43250	EVMCX42251 EVMCX43251		
250	1 11/4	EVMA43250	EVMA43251	EVMBX43250	EVIVIDA43251	EVIVICA43250	EVIVICA43251	EVMJ44250	EVMJ44251
	3/4	EVMA42400	EVMA42401	EVMBX42400	EVMBX42401	EVMCX42400	EVMCX42401		
400	1	EVMA43400	EVMA43401	EVMBX43400	EVMBX43401	EVMCX42400	EVMCX42401		
	11/4							EVMJ44400	EVMJ44401

Complete the Catalog Number by Adding Voltage and Options Suffixes as Follows:

	Standard Voltage Ballasts - 60Hz										
		NEC/UL					CEC/CSA (cUL)				
1.	Voltage	Multi	Tap	120V	480V		Tri Tap		120V		
	Suffix	/N	1T .	/120	/480		/TT		/120		
						I					
	Optional Voltage	Ballasts - 50 d	or 60Hz								
		CEC/	CSA (cUL)- C\	WI Isolated Ball	asts		EXP	ORT			
	Voltage	208V CWI	240V CWI	480V CWI	600V CWI	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz		
	Suffix	/208CWI	/240CWI	/480CWI	/600CWI	/220	/220 50	/230 50	/240 50		

- 2. 150W HPS Luminaires, 55V Lamps is Standard, for 100V lamps Add suffix "CE"
- 3. Options Add the Required Options Suffixes, see page 1056, in alpha-numeric order.

Cl. I, Div. 1, Groups B (GB suffix), C, D CI. I, Zone 1, Groups IIB + H₂ (with suffix GB), IIB, IIA CI. II, Div. 1, Groups E, F, G; Class III

Paint Spray (100W max.) Marine & Wet Locations 3, 3R, 4, 4X; IP66









		Pendant I	Luminaires	Wall Bracke	t Luminaires	Ceiling Luminaires		Stanchion Luminaires (25°)	
Watts	Hub Size (In.)	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #	Without Guard Cat. #	With Guard Cat. #
Pulse S	tart Meta	l Halide							
	3/4	EVMA92150 S828	EVMA92151 \$828	EVMBX92150 S828	EVMBX92151 S828	EVMCX92150 S828	EVMCX92151 S828		
150	1	EVMA93150 S828	EVMA93151 S828	EVMBX93150 S828	EVMBX93151 S828	EVMCX93150 S828	EVMCX93151 S828		
	11/4							EVMJ94150 S828	EVMJ94151 S828
	3/4	EVMA92170 S828	EVMA92171 S828	EVMBX92170 S828	EVMBX92171 S828	EVMCX92170 S828	EVMCX92171 S828		
175	1	EVMA93170 S828	EVMA93171 S828	EVMBX93170 S828	EVMBX93171 S828	EVMCX93170 S828	EVMCX93171 S828		
	11/4							EVMJ94170 S828	EVMJ94171 S828
	3/4	EVMA92200 S828	EVMA92201 S828	EVMBX92200 S828	EVMBX92201 S828	EVMCX92200 S828	EVMCX92201 S828		
200	1	EVMA93200 S828	EVMA93201 S828	EVMBX93200 S828	EVMBX93201 S828	EVMCX93200 S828	EVMCX93201 S828		
	11/4							EVMJ94200 S828	EVMJ94201 S828
	3/4	EVMA92250 S828	EVMA92251 S828	EVMBX92250 S828	EVMBX92251 S828	EVMCX92250 S828	EVMCX92251 S828		
250	1	EVMA93250 S828	EVMA93251 S828	EVMBX93250 S828	EVMBX93251 S828	EVMCX93250 S828	EVMCX93251 S828		
	11/4							EVMJ94250 S828	EVMJ94251 S828
	3/4	EVMA92320 S828	EVMA92321 S828	EVMBX92320 S828	EVMBX92321 S828	EVMCX92320 S828	EVMCX92321 S828		
320	1	EVMA93320 S828	EVMA93321 S828	EVMBX93320 S828	EVMBX93321 S828	EVMCX93320 S828	EVMCX93321 S828		
	11/4							EVMJ94320 S828	EVMJ94321 S828
	3/4	EVMA92400 S828	EVMA92401 S828	EVMBX92400 S828	EVMBX92401 S828	EVMCX92400 S828	EVMCX92401 S828		
400	1	EVMA93400 S828	EVMA93401 S828	EVMBX93400 S828	EVMBX93401 S828	EVMCX93400 S828	EVMCX93401 S828		
	11/4							EVMJ94400 S828	EVMJ94401 S828
Metal H	lalide								
	3/4	EVMA92070	EVMA92071	EVMBX92070	EVMBX92071	EVMCX92070	EVMCX92071		
70	1	EVMA93070	EVMA93071	EVMBX93070	EVMBX93071	EVMCX93070	EVMCX93071		
	11/4							EVMJ94070	EVMJ94071
	3/4	EVMA92100	EVMA92101	EVMBX92100	EVMBX92101	EVMCX92100	EVMCX92101		
100	1	EVMA93100	EVMA93101	EVMBX93100	EVMBX93101	EVMCX93100	EVMCX93101		
	1 1/4							EVMJ94100	EVMJ94101
	3/4	EVMA92170	EVMA92171	EVMBX92170	EVMBX92171	EVMCX92170	EVMCX92171		
175	1	EVMA93170	EVMA93171	EVMBX93170	EVMBX93171	EVMBX93170	EVMCX93171		
	11/4							EVMJ94170	EVMJ94171
	3/4	EVMA92250	EVMA92251	EVMBX92250	EVMBX92251	EVMCX92250	EVMCX92251		
250	1	EVMA93250	EVMA93251	EVMBX93250	EVMBX93251	EVMCX93250	EVMCX93251		
	11/4							EVMJ94250	EVMJ94251
	3/4	EVMA92400	EVMA92401	EVMBX92400	EVMBX92401	EVMCX92400	EVMCX92401		
400	1	EVMA93400	EVMA93401	EVMBX93400	EVMBX93401	EVMCX93400	EVMCX93401		
	11/4							EVMJ94400	EVMJ94401

Complete the Catalog Number by Adding Voltage and Options Suffixes as Follows:

Standard Voltage Ballasts – 60Hz

	-		NEC/UL	CEC/CSA (cUL)				
1.	Voltage	Multi Tap	Dual-Tap	120V	480V	Tri Tap	Dual-Tap	120V
	Suffix	/MT	/DT	/120	/480	/TT	/DT	/120

Optional Voltage Ballasts - 50 or 60Hz

	*CEC/CSA (cUL)- CWI Iso	lated Ballasts		EX	PORT		
Voltage	208V CWI	240V CWI	600V CWI	220V 60Hz	220V 50Hz	230V 50Hz	240V 50Hz	
Suffix	/208CWI	/240CWI	/600CWI	/220	/220 50	/230 50	/240 50	

¹⁵⁰W HPS Luminaires, 55V Lamps is Standard, for 100V lamps - Add suffix "CE"

Options - Add the Required Options Suffixes, see page 1056, in alpha-numeric order.

^{*}CWI Isolated Ballasts are only available for 175W-400W metal halide (non pulse start) luminaires.

Reflectors



Dome



30° Angle

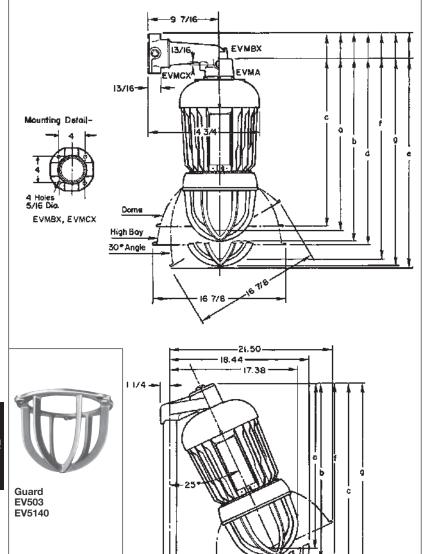


High Bay

Туре	Cat. #
Dome	RD739
30° Angle	RA739
High Bay	EV3912

Temperature Performance Data Maximum Ambient

	Class I				Class II (E, F, G)	Simultaneous Presence	Paint Spray Booth	Supply Wire	
Watts	40°C	55°C	65°C	75°C	40°C	40°C	40°C	°C	
High Pre	ssure Sodi	ium							
50 70 100 150 200 250 400	T6 T6 T5 T4A T4A T4 T3C	T6 T6 T5 T4A T4A T3C	T6 T5 T4A T4 T4 —	T5 T4A T4A — — —	T4 T4 T4 T3C — —	T4 T4 T4 T3C — —	T4A T4A T4A — — —	90 90 90 90 90 90	
Metal Ha	alide (Includ	ding Pulse	Start)						
70 100 150 175 200 250 320 400	T6 T5 T4A T4A T4 T4 T3A T3A	T6 T5 T4 T4 T3C T3C -	T5 T4A T4 T4 — — —	T3 T3 	T3C T3C T3C T3C 	T3C T3C T3C T3C - - -	T4A T4A — — — — — —	90 90 90 90 90 90 90	



Luminaire Net Weights:

H.I.D. Source	Lamp Watts	with Globe and Guard (lbs.)
	50	40
	70	40
Lliada	100	44
High	150 (55V)	45
Pressure	150 (100V)	44
Sodium	200	46
	250	46
	400	55
	70	39
Metal	100	39
	175	42
Halide	250	43
	400	51

Туре	Lbs.	Туре	Lbs.	
Add for M	ounting	Modules:		
Pendant	1	Bracket	41/4	
Ceiling	2	Stanchion	21/4	

Add for Reflectors:

RD739 13/4 RA739 2 EV3912 21/2

Deduct: 11/2 lbs. for luminaire without guard.

МН

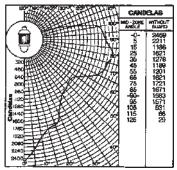
100, 175, 250W MV 50, 70, 100, All luminaires with QTZ option 150W HPS 70, 100, 175, 250W and 200, 250, 400W HPS 400W MV & MH

All - Reflectors

					Dome -	High Bay –	30° Angle –
Туре	а	b	f	g	С	d	е
EVMA EVMBX EVMCX EVMJ	25 ¹ / ₁₆ 27 ⁷ / ₈ 24 22 ¹¹ / ₁₆	26 28 ¹³ / ₁₆ 24 ¹⁵ / ₁₆ 24 ¹ / ₈	27 ⁵ / ₁₆ 30 ¹ / ₈ 26 ¹ / ₄ 25 ¹ / ₄	28 ¹ / ₄ 31 ¹ / ₁₆ 27 ³ / ₁₆ 26 ¹ / ₈	23 ⁷ / ₈ 26 ¹¹ / ₁₆ 22 ¹³ / ₁₆ 25 ³ / ₈	26 ⁷ / ₁₆ 29 ³ / ₄ 25 ³ / ₈ 27 ¹¹ / ₁₆	28 ⁹ / ₁₆ 31 ³ / ₈ 27 ¹ / ₂ 28 ³ / ₄

Lamp: 150W/E-23-1/2 high pressure sodium (HPS) Total bare lamp lumens: 16,000

Luminaire With Globe and Without Guard



Note: Photometric data was developed using a 150 watt clear high pressure sodium lamp (16,000 lumens). For other clear lamps, use the following conversion factors (multipliers): 50W HPS – .25; 70W HPS – .40; 100W HPS – .59. Multipliers are for use with candela curve only.

Luminaire spacing ratio is 0.80.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectanc			Cavity F			-
Eff. Ceil.	Wall	1	2	3	4	5
	50	.695	.579	.494	.410	.382
80	30	.644	.509	.417	.326	.305
	10	.599	.450	.356	.262	.246
	50	.659	.549	.469	.387	.363
70	30	.613	.484	.397	.311	.291
	10	.570	.431	.341	.251	.236
	50	.592	.491	.419	.344	.327
50	30	.555	.439	.360	.279	.265
	10	.522	.393	.312	.229	.218
	50	.531	.438	.373	.304	.292
30	30	.502	.396	.325	.250	.240
	10	.474	.358	.284	.207	.200
	50	.476	.390	.331	.267	.260
10	30	.451	.355	.291	.222	.217
	10	.429	.325	.257	.184	.181
0	0	.399	.295	.230	.159	.159
% Reflectanc			Cavity F			
% Reflectanc Eff. Ceil.	e Wall	Room 6	Cavity F	Ratio 8	9	10
	Wall 50	.342	.306		.265	.233
	Wall 50 30	.342 .266	.306 .234	.278 .209	.265 .198	.233 .168
Eff. Ceil.	Wall 50	.342	.306	.278	.265	.233
Eff. Ceil.	50 30 10	.342 .266 .212	306 .234 .184	.278 .209 .160	.265 .198 .153	.233 .168 .127
Eff. Ceil.	50 30 10 50 30	.342 .266 .212 .324 .254	306 .234 .184 .292 .223	.278 .209 .160 .265 .201	.265 .198 .153 .253 .191	.233 .168 .127 .222 .163
Eff. Ceil.	50 30 10	.342 .266 .212	306 .234 .184	.278 .209 .160	.265 .198 .153	.233 .168 .127
Eff. Ceil.	Wall 50 30 10 50 30 10 50 50	342 .266 .212 .324 .254 .202	7 .306 .234 .184 .292 .223 .176	8 .278 .209 .160 .265 .201 .155	.265 .198 .153 .253 .191 .149	.233 .168 .127 .222 .163 .123
Eff. Ceil.	50 30 10 50 30 10 50 30 10 50 30	342 .266 .212 .324 .254 .202 .292 .232	7 .306 .234 .184 .292 .223 .176 .263 .203	8 .278 .209 .160 .265 .201 .155 .240 .184	.265 .198 .153 .253 .191 .149	.233 .168 .127 .222 .163 .123 .203 .150
80 70	Wall 50 30 10 50 30 10 50 50	342 .266 .212 .324 .254 .202	7 .306 .234 .184 .292 .223 .176	8 .278 .209 .160 .265 .201 .155	.265 .198 .153 .253 .191 .149	.233 .168 .127 .222 .163 .123
80 70	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50	.342 .266 .212 .324 .254 .202 .292 .232 .187	7 .306 .234 .184 .292 .223 .176 .263 .203 .162	8 .278 .209 .160 .265 .201 .155 .240 .184 .143	.265 .198 .153 .253 .191 .149 .231 .177 .139	.233 .168 .127 .222 .163 .123 .203 .150 .114
80 70	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 30	6 .342 .266 .212 .324 .254 .202 .292 .232 .187 .262 .211	7 .306 .234 .184 .292 .223 .176 .263 .203 .162 .236 .186	8 .278 .209 .160 .265 .201 .155 .240 .184 .143 .218 .167	.265 .198 .153 .253 .191 .149 .231 .177 .139 .210	.233 .168 .127 .222 .163 .123 .203 .150 .114 .185 .138
80	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50	.342 .266 .212 .324 .254 .202 .292 .232 .187	7 .306 .234 .184 .292 .223 .176 .263 .203 .162	8 .278 .209 .160 .265 .201 .155 .240 .184 .143	.265 .198 .153 .253 .191 .149 .231 .177 .139	.233 .168 .127 .222 .163 .123 .203 .150 .114
80	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.342 .266 .212 .324 .254 .202 .292 .232 .187 .262 .211 .172	7 .306 .234 .184 .292 .223 .176 .263 .203 .162 .236 .186 .148	.278 .209 .160 .265 .201 .155 .240 .184 .143 .218 .167 .132	.265 .198 .153 .253 .191 .149 .231 .177 .139 .210 .162 .129	.233 .168 .127 .222 .163 .123 .203 .150 .114 .185 .138 .105
80	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 30 30 30 30 30	.342 .266 .212 .324 .254 .202 .292 .382 .187 .262 .211 .172 .234	7 .306 .234 .184 .292 .223 .176 .263 .203 .162 .236 .186 .148 .213 .169	.278 .209 .160 .265 .201 .155 .240 .184 .143 .218 .167 .132	.265 .198 .153 .253 .191 .149 .231 .177 .139 .210 .162 .129 .191 .149	.233 .168 .127 .222 .163 .123 .203 .150 .114 .185 .138 .105
70	Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 50	.342 .266 .212 .324 .254 .202 .292 .232 .187 .262 .211 .172	7 .306 .234 .184 .292 .223 .176 .263 .203 .162 .236 .186 .148	.278 .209 .160 .265 .201 .155 .240 .184 .143 .218 .167 .132	.265 .198 .153 .253 .191 .149 .231 .177 .139 .210 .162 .129	.233 .168 .127 .222 .163 .123 .203 .150 .114 .185 .138 .105

4L EVM Hazard•Gard® H.I.D. Luminaires

Lamp: 150W/E-23-1/2 high pressure sodium (HPS) Total bare lamp lumens: 16000

Luminaire With Globe, Hi-Bay Reflector and Without Guard

Room Cavity Ratio



Note: Photometric data was developed using a 150 watt clear high pressure sodium lamp (16,000 lumens). For other clear lamps, use the following conversion factors (multipliers): 50W HPS – .25; 70W HPS – .40; 100W HPS – .59. Multipliers are for use with candela curve only.

Luminaire spacing ratio is 1.00.

Coefficient of Utilization

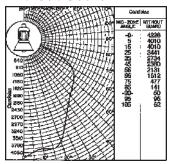
Effective Floor Cavity Reflectance 20%

% Reflectance

/0 1101100	tuiloc	1100111	Ouvity In	4110		
Eff. Ceil.	Wall	1	2	3	4	5
	50	.668	.618	.573	.531	.494
80	30	.651	.592	.542	.495	.455
	10	.636	.569	.517	.468	.427
	50	.655	.608	.566	.525	.487
70	30	.639	.583	.536	.491	.452
	10	.625	.564	.513	.464	.425
	50	.629	.587	.550	.511	.476
50	30	.616	.568	.525	.482	.446
	10	.606	.550	.505	.459	.422
	50	.606	.569	.535	.498	.466
30	30	.597	.554	.514	.474	.438
	10	.588	.539	.497	.454	.418
	50	.586	.553	.522	.487	.457
10	30	.578	.539	.504	.466	.433
	10	.570	.528	.489	.449	.413
0	0	.560	.517	.479	.439	.404
% Reflec	tance	Room	Cavity Ra	atio		
Eff. Ceil.	Wall	6	7	8	9	10
	50	.460	.427	.396	.369	.328
80	30	.420	.388	.358	.330	.288
	10	.394	.361	.330	.303	.262
	50	.455	.423	.392	.366	.325
70	30	.418	.385	.356	.328	.288
	10	.391	.359	.329	.303	.262
	50	.444	.414	.385	.360	.320
50	30	.412	.380	.352	.325	.285
	10	.388	.357	.328	.301	.261
	50	.436	.406	.379	.354	.315
30	30	.407	.377	.348	.322	.282
	10	.385	.354	.326	.300	.259
	50	.428	.400	.373	.348	.311
10	30	.402	.373	.345	.319	.280
	10	.382	.352	.324	.298	.258
0	0	.373	.343	.315	.290	.249

Lamp: 150W/E-23-1/2 high pressure sodium (HPS) Total bare lamp lumens: 16000

Luminaire With Globe, Dome Reflector and Without Guard



Note: Photometric data was developed using a 150 watt clear high pressure sodium lamp (16,000 lumens). For other clear lamps, use the following conversion factors (multipliers): 50W HPS – .25; 70W HPS – .40; 100W HPS – .59. Multipliers are for use with candela curve only.

Luminaire spacing ratio is 1.20.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflect	tance Wall	Room	Cavity Ra	atio 3	4	5
80	50 30	.716 .689	.637 .596	.568 .519	.507 .452	.455 .398
	10	.666	.561	.480	.410	.355
70	50 30 10	.700 .675 .653	.624 .585 .555	.559 .512 .476	.498 .447 .407	.446 .393 .353
50	50 30 10	.668 .648 .631	.598 .567 .539	.538 .498 .466	.479 .435 .400	.432 .385 .349
30	50 30 10	.640 .625 .610	.575 .549 .526	.518 .485 .457	.463 .425 .394	.417 .376 .344
10	50 30 10	.615 .602 .590	.554 .532 .513	.500 .472 .448	.447 .415 .388	.404 .369 .339
0	0	.575	.498	.434	.373	.326
% Reflec			Cavity Ra		9	10
% Reflection Eff. Ceil.	tance Wall 50 30 10	Room 6 .413 .355 .316		.339 .285 .246	9 .312 .258 .221	.275 .222 .187
Eff. Ceil.	Wall 50 30	.413 .355	Cavity Ra 7 .373 .318	.339 .285	.312 .258	.275 .222
Eff. Ceil.	Wall 50 30 10 50 30	.413 .355 .316 .405 .352	Cavity Ra 7 .373 .318 .280 .368 .314	.339 .285 .246 .334 .283	.312 .258 .221 .308 .256	.275 .222 .187 .271 .222
80	Wall 50 30 10 50 30 10 50 30 10 50 30	.413 .355 .316 .405 .352 .312 .392 .345	Cavity Ra 7 .373 .318 .280 .368 .314 .277 .356 .307	8 .339 .285 .246 .334 .283 .245 .324 .277	.312 .258 .221 .308 .256 .221 .299 .252	.275 .222 .187 .271 .222 .187 .264
80	50 30 10 50 30 10 50 30 10 50 30 10 50 30 30 30 30 30 30 30 30 30 30 30 30 30	6 .413 .355 .316 .405 .352 .312 .392 .345 .309	Cavity Ra 7 .373 .318 .280 .368 .314 .277 .356 .307 .274 .345 .303	8 .339 .285 .246 .334 .283 .245 .324 .277 .243 .316 .272	.312 .258 .221 .308 .256 .221 .299 .252 .219 .291 .247	.275 .222 .187 .271 .222 .187 .264 .217 .185

Fluorescent Luminaires Hazardous and Non-Hazardous

Description	Page No.
Application/Selection	see page 1064
General Purpose Luminaires VF Vaporgard™ Series	see page 1065
Non-metallic Luminaires	000 page 1000
NFL Series N2MVF	see pages 1096–1098 see pages 1078–1082
Hazardous Area Luminaires	
CPMVF	see pages 1068-1069
DMVF	see pages 1071-1077
eLLB20 Series	see pages 1109-1111
eLLK Series	see pages 1099-1102
EVLPF	see pages 1083-1088
EVF Series	see page 1112
EVFDR Series	see pages 1116-1117
EVFT Illuminator™ Series	see pages 1092-1095
FVN Series	see pages 1106-1108
FVS Series	see pages 1089-1091
nLLK Series	see pages 1103-1105
VMVF	see page 1070

Applications:

- For use in hazardous or non-hazardous areas (as shown in the Quick Selector Chart below)
- Low operating cost
- High light output per watt
- Low brightness
- Low glare
- Uniform light
- Instant illumination

Considerations for Selection:

Having made the determination that a fluorescent luminaire is required, the remaining selection is the type of luminaire (i.e., number and kind of lamps) and placement of luminaire. To determine the number of luminaires:

- Determine Cavity Ratios for room, ceiling and floor
- 2. Determine Coefficient of Utilization
- 3. Determine Light Loss
- Determine Lamp Lumens required =
 Footcandles x Area
 Coefficient of Utilization x Light Loss Factor
- 5. Determine number of luminaires required = <u>Total Lamp Lumens Required</u> Lamp Lumens per Luminaire

Table 500.8(C) Identification Numbers

iviaxim	um	iemp.
Tempera	ature	Class
Deg. C	Deg. F	(T Code)
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

Quick Selector Chart

Series	NEC – Hazardous Area Compliance	Lamp Watts	Volts	No. of Lamps
VF	Cl. I, Division 2, Groups A, B, C, D	9	120	2
NFL	Cl. I, Division 2, Groups A, B, C, D	32, 40	120–277V 50–60Hz	1, 2
FVN	Cl. I, Division 2, Groups A, B, C, D; Cl. II, Groups F, G; Cl. III	32, 40, 60	120, 277, 220 / 240 50 or 60Hz	2, 3
EVF	Cl. I, Groups C, D; Cl. II, Groups E, F, G	32, 40, 60, 110	120, 277, 347, 220 / 240 50 or 60Hz	1, 2, 3, 4
EVFDR	Cl. I, Groups C, D; Cl. II, Groups E, F, G	32, 40, 60, 110	120, 277, 220 / 240 50 or 60Hz	2
EVFT	Cl. I, Groups B, C, D; Cl. II, Groups E, F, G; Cl. III	39	120, 277, 220 / 240 50 or 60Hz	2, 4
FVS	Cl. I, Division 2, Groups B, C, D; Cl. II, Groups E, F, G; Cl. III	40	120–277V, 50–60Hz or 347V, 60Hz	2
DMVF	Cl. I, Division 2, Groups A, B, C, D; Cl. II, Groups E, F, G; Cl. III; Simultaneous Presence	26, 32, 42	120–277V, 50–60Hz or 347V, 60Hz	2, 3
N2MVF	Cl. I, Division 2, Groups A, B, C, D; Class II, Groups F, G; Class III; Simultaneous Presence	26, 32	120–277V, 50–60Hz or 347V, 60Hz	2
EVLP	Cl. I, Division 1, Groups (B), C, D; Cl. II, Groups E, F, G; Cl. III; Simultaneous Presence	26, 32	120–277V, 50–60Hz or 347V, 60Hz	2
CPMVF	Cl. I, Division 2, Groups A, B, C, D	26, 32, 42	120–277V, 50–60Hz or 347V, 60Hz	2
eLLB 20	Cl. I, Division 2, Groups A, B, C, D; Cl. I, Zone 1, Group IIC; Cl. II, Division 2, Groups F, G	17, 32	120-240V, 50-60Hz 110-230VDC	2
eLLK	Cl. I, Zone I & Division 2; Cl. II, Division 2	32	120-254V	2
nLLK	Cl. I, Division 2, Groups A, B, C, D; Cl. I, Zone 2 AEx nA II; Cl. II, Division 2, Groups F, G	17, 32	120–277V, 60Hz	2

VF Series Vaporgard™ Fluorescent Luminaires

Cl. I, Div. 2, Groups A, B, C, D* Cl. I, Zone 2 IIC* Wet Locations 3.3R

Applications:

VF Series Vaporgard Fluorescent Lighting Luminaires are used:

- · Indoors or outdoors in industrial locations where enclosed and gasketed luminaires are required
- Where the energy efficiency and long life of single twin tube compact fluorescent lamps are desired
- Where luminaires may be subject to wet, damp, dirty locations
- Where vibration and rough usage are a problem
- To retrofit existing Vaporgard incandescent luminaires
- In tunnels, building entrances, utility rooms, hallways and similar locations
- With clear or colored globes to illuminate or mark critical locations or processes

Features:

- · Compact size and light weight allow adaptation and easy installation in many industrial applications
- Cast copper-free aluminum (less than 0.4 of 1% copper) construction and epoxy powder finish provide excellent resistance to corrosion
- Variety of mounting arrangements to suit any lighting layout - pendant, ceiling, wall bracket, angle stanchion, through feed, box mount
- VFH luminaire components can be installed on existing Vaporgard incandescent components and standard stamped metal boxes
- Fixtures available for use with two compact 9 watt fluorescent lamps
- Dome and 30° angle reflectors made of bright white Krydon® material provide superior reflectivity; will not chip, peel, dent, rust, or corrode (order separately – see pages 1066-1067)
- Glass globes are internally fluted and stippled to reduce glare and provide even light distribution; exteriors are smooth to shed dust
- · All luminaires 120 VAC only!
- · Grounding wire for safety

Certifications and Compliances:

• UL Standard: 1598, 844 • CSA Standard: C22.2 No. 137

Standard Materials:

- Bodies and guards copper-free aluminum (less than 0.4 of 1%)
- Globes clear or colored, glass or plastic
- Reflectors Krydon fiberglass-reinforced polyester material



Standard Finishes:

- Copper-free aluminum powder epoxy
- Krydon material high reflectance white

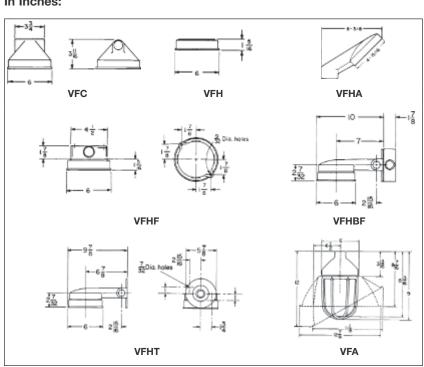
- Input voltage 120 VAC, 60 hertz

Electrical Ratings:

Wattages: two 9 watt lamps

Dimensions

In Inches:



*All mountings except stanchion.

Accessories:

See next page for complete listing

Luminaire Net Weights:

Fixture Type	1-Lamp Luminaire With Globe & Guard (lbs.)	2-Lamp Luminaire With Globe & Guard (lbs.)
VFA	4 ³ / ₄	5
VFHF	5	5 ¹ / ₄
VFHBF	7 ¹ / ₄	7 ¹ / ₂

Туре	Lbs.	Туре	Lbs.
Add for	Reflecto	rs:	
Dome	1	30° Angle	1
Deduct:	1/2 lb for	P21 Guard	

Temperature Performance Data:

Lamp	Class I, Div. 2			Minimum Operating
9W	ТЗВ	40°C	75°C	-4°C (25°F)

<u>5</u>

Twin Tube Fluorescent with G24 Clear Glass Globe and P21 Guard (lamps not included)















		Pendant Mount	Ceiling Mount	Wall Mount (w/Box)	Wall Mount (No Box)	Angle Stanchion	Through Feed Mount	Box Mount & Retrofit
Luminaire Watts	Hub Size (In.)	Pendant Mount Cat. #	Ceiling Mount Cat. #	Wall Mount (w/Box) Cat. #	Wall Mount (No Box) Cat. #	Angle Stanchion Mount* Cat. #	Through Feed Mount Cat. #	Box Mount & Retrofit Cat. #
2 Lamps, 9W Each	1/ ₂ 3/ ₄ 1 1 1/ ₄	VFA122GP VFA222GP VFA322GP	VFHF122GP VFHF222GP	VFHBF122GP VFHBF222GP	VFHT122GP VFHT222GP	VFHA422GP	VFC122GP VFC222GP	VFH122GP

VF Series with Colored Glass Globes or Plastic Globes

• Substitute appropriate globe designation for "G" in above Cat. Nos.

Accessories and Components Reflectors







Globes





Dome (Cannot be used with wall mount luminaires) 30° Angle

Cat. # RD71 **RA71**

Globe Glass Color Cat. # Clear **G24** Green G25 **G26** Blue **G27** Red

G28

Plastic Cat. #* G63 G65

G67

Guard globes only

Cat. # For use with glass P21

Junction Boxes and Bracket Bodies

Cat. #

VXF10

VXF20







VXT - 3 Hubs, 2 Plugs

VXT - 3 Hubs, 2 Plugs





VXA - Stanchion Mount (Non-hazardous Locations) Hub Size (In.) Cat. #

Hub Size (In.)

Cat. # VXT10

Amber





VXFT - 5 Hubs, 4 Plugs

VXFT – 5 Hubs, 4 Plugs Hub Size (In.)	Cat. #
1/	VVET40

VXFT10 VXFT20





Mounting Adapter Kit Description

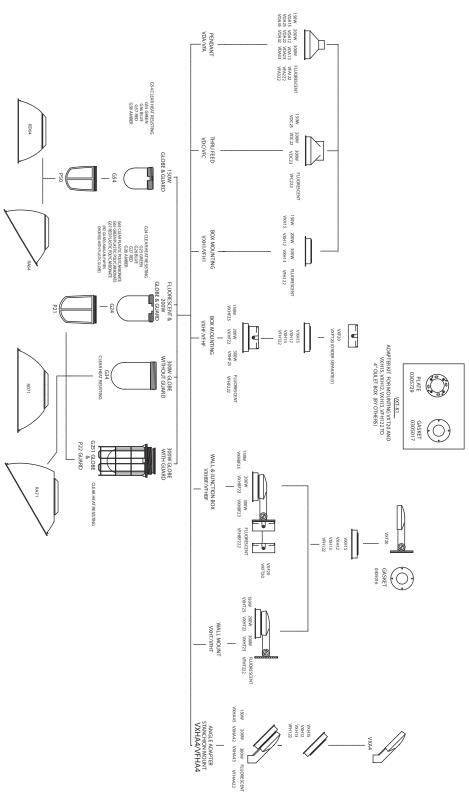
Allows for the mounting of non-Eaton's Crouse-Hinds outlet boxes to the VXT20 wall mount bracket and VXH ceiling mount bracket

*For non-hazardous locations. †All mountings except stanchion.

VXF - 4 Hubs, 3 Plugs

Hub Size (In.)

Cat. #



5L

CPMVF Champ-Pak™ Compact Fluorescent Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence Marine & Wet Locations 3, 3R, 4, 4X; IP56

Applications:

CPMVF Champ-Pak™ luminaires are used:

- Indoor and outdoor wall mounting or vertical surface mounting where minimal luminaire depth is required in:
 - Manufacturing plants and heavy industrial facilities
 - Industrial process facilities such as refineries, chemical, petrochemical, pharmaceutical and platforms
 - Waste or sewage treatment plants
 - Offshore, dockside and harbor installations
- For security and safety lighting in industrial facilities for lighting of loading docks, tunnels, and stairways
- For marine, wet location, hose down, and corrosive environments

Features and Benefits:

- Unique compact shallow-profile design mounts virtually anywhere
- Side hinged cover with two screw closing for easy installation and maintenance
- Gray Corro-free™ epoxy powder coat two-piece housing provides superior corrosion resistance
- Unique stainless steel wire guard accessory attaches without any additional hardware for easy installation and maintenance
- Glass refractor provides uniform light distribution to eliminate glare
- Silicon gaskets make luminaire suitable for NEMA 4X, marine environments
- High power factor ballasts (+90%) are standard, which allow more luminaires per circuit

Certifications and Compliances:

NEC and CEC:

Class I, Division 2, Groups A, B, C, D
Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II)

Class I, Zone 2

• IEC:

Zone 2 Ex nR IIC

UL Standards:

844, 2279 Hazardous (Classified) Locations 1598 Luminaires

1598A Marine Locations

CSA Standards:

C22.2 No. 137

 IEC Standards: 60079-15

Standard Materials:

- Luminaire housing and door frame assembly copper-free aluminum
- External hardware stainless steel
- Lens heat- and impact-resistant refractor style glass
- Gaskets silicon rubber
- Reflector aluminum light sheet
- Wire guard stainless steel

Standard Finishes:

- Aluminum Corro-free[™] epoxy powder coat
- Stainless steel natural

Energy Savings:

 Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output



Electrical Rating Ranges:

- Wattages: two 26, 32, or 42 watt lamps
- 120-277V, 50-60Hz
- 347V, 60Hz
- 12, 24, and 125VDC (Consult Eaton's Crouse-Hinds)

Options:

Description Restricted Breathing Construction Class I, Division 2 & Zone 2 Suitability Cooler Operating Temperatures (T-Numbers)	Suffix S826
Certified for IEC Zone 2 Furnished with: Terminal Block Crimp Terminals	S826TB
Factory Assembled with Lamp	FA
Fused - protects ballast and capacitors against abnormal line conditions	S65 8

Accessories:

Description	Cat. #
Photocell for Field Installation	
• 120V, 50/60Hz	V2PC20
• 208–240V, 50/60Hz	V2PC22
• 277V, 50/60Hz	V2PC27
Stainless Steel Wire Guard	P55

CPMVF Champ-Pak™ Compact Fluorescent Luminaires

Ordering Information Temperature Performance Data Dimensions & Weights

Ordering Information:

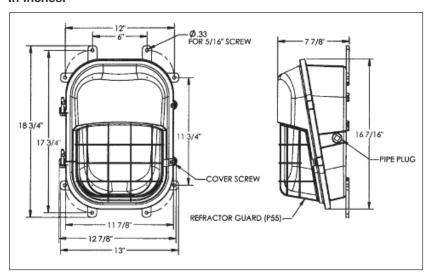
Hub Size (In.)	Luminaire Watts	Cat. #
³/ ₄ NPT	52	CPMVF2W052
³/₄ NPT	64	CPMVF2W064
3/4 NPT	84	CPMVF2W084

	STANDARD VOLTAGE BALLASTS OPTIONAL BALLASTS					
	NEC/UL & CEC/CSA (cUL) CEC/CSA (cUL)			It Eaton's Crouse-	Hinds)	
Voltage	120-277V 50-60Hz	347V 60Hz	125V DC	12V DC	24V DC	
Suffix	/UNV	/347	/125VDC	/012VDC	/024VDC	

CPMVF Temperature Performance Data – Consult Eaton's Crouse-Hinds

Dimensions

In Inches:



Net Weight:

Description	Lbs.
CPMVF Less Guard	17 lbs.
P55 Guard	0.5 lbs.

Cl. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, AEx nR II, Ex nR IIC IEC Zone 2, Ex nR IIC UL/CSA IEC 60079-15

Champ® Luminaires

Applications:

VMVF Series Champ Luminaires are used:

- In refineries, chemical, petrochemical, and pharmaceutical plants, wastewater treatment facilities
- · In shipboard, drilling rigs, drilling platforms
- In flour and feed mills, grain elevators, sugar and cocoa plants
- In area/structure lighting, security lighting, parking areas

Features and Benefits:

Increased Productivity

• Instant-on luminaire eliminates flicker-free starting and increases safety and productivity

Consistent Design

- · Luminaire components are of the same materials as standard VMV
- Popular components are available from stock; offers visual consistency throughout installation

High Lumen Output

• Compact fluorescent light fixture provides higher lumen output with increased color rendering index (CRI)

Reliable Performance in Any Environment

- Energy-efficient universal ballast suitable for 120-277V 50/60Hz minimum starting temperature of -18°C provides long lamp life and lamp end-of-life protection
- UL marine rated, NEMA 4X/IP66 luminaire prevents water ingress and is suitable for the most adverse outdoor environments



Certifications and Compliances:

• NEC/CEC:

Class I, Division 2, Groups A, B, C, D Class I, Zone 2, AEx nR II, Ex nR IIC

• IEC:

IEC Zone 2, Ex nR IIC

UL Standards:

UL844 Hazardous (Classified) Locations UL1598 Luminaires, UL1598A Marine Locations

CSA Standards:

C22.2 No. 137

• IEC Standards:

IEC 60079-15

Ordering Information Example:

			<u>VMV</u>	Ę	<u>2A</u>	042	<u>GP</u>	<u>/UNV</u>	<u>S714</u>
1.	Series ——— VMV DMV								
2.	F (Fluorescent) FB (Fluorescent)								
3.	Mounting Style Blank J P 2A 3A 2C 3C 2HA 2TW 3TW 25Q	No Cover 1 1/2" Stanchion 25° 1 1/2" Stanchion Straight 3/4" Pendant 1" Pendant 3/4" Ceiling 1" Ceiling 3/4" Offset Pendant (low wattage only) 3/4" Wall Mount 1" Wall Mount 3/4" Quad Mount							
4.	Wattage ——— 042 084	42W F (VMVF) 84W F (DMVF/DMVFB)							
5.	Globe and Gu GP GP	G24 Globe and P21 Guard (VMVF) G303 Globe and P33 Guard (DMVF)							
6.	Voltage ——— /UNV /347	120-277V 50/60Hz Fluorescent (For Canada)							
7.	Suffixes —— S714 S806	Furnished with Lamps Cover Furnished with Stainless Steel Insert							

S826 Restricted Breathing (Cl. I, Div. 2 & Zone 2 Suitability, Cooler T-Numbers)

S826TB Restricted Breathing Supplied with Terminal Block Connections (Certified for IEC Zone 2) S858

Red Paint for Exterior S890

Quick Clip

Factory Assembled with Lamps Installed FA

5L

DMVF Series Compact Fluorescent

Champ® Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) CI. II, Groups E, F, G; CI. III & Simultaneous Presence Marine & Wet Locations 3, 3R, 4, 4X; IP66

Applications:

DMVF Series Champ Luminaires are used:

- In areas made hazardous by abnormal conditions resulting in the presence of flammable vapors or gases
- In areas made hazardous by the presence of combustible dusts
- Where combustible dusts and flammable vapors are present simultaneously
- In marine applications where water spray and corrosive atmospheres are considerations
- On installations where vibration and rough usage are problematic
- Where a cool, efficient light source is required
- In areas that require lamps to reach full illumination immediately
- In refineries, chemical and petrochemical facilities, grain processing, handling or storage facilities, manufacturing plants, wastewater treatment plants, sewage treatment plants, oil terminals, food processing facilities, breweries, and any other manufacturing or processing facility where safe, reliable, hazardous area fluorescent or auxiliary lighting is needed

Standard Features:

- Housings made of die-cast copper-free aluminum (less than 0.4 of 1% copper) for strength and resistance to corrosion
- Mounting modules equipped with integral hub set screws for vibration resistance (ceiling, pendant, and quad mounts)
- Hubs are provided with an integral conduit stop and bushing to help prevent damage to field wiring during installation
- Epoxy powder finish and stainless steel external hardware for resistance to corrosion
- Long-life gaskets which provide seals between mounting module, housing, and optical assembly
- · Grounding wire for safety
- · Cool operating design
- Optional stainless steel open bottom guard permits direct access to the globe for easy relamping
- Optional battery pack ballast for auxiliary lighting

Certifications and Compliances:

NEC and CEC:

Class I, Division 2, Groups A, B, C, D Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II) Class I, Zone 2

• IEC:

Zone 2 Ex nR IIC

UI Standards:

844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations

CSA Standards:

C22.2 No. 137

• IEC Standards: 60079-15

Standard Materials:

- Ballast housings and mountings copper-free aluminum (less than 0.4 of 1%)
- Exterior hardware and guards stainless steel
- Reflectors Krydon® fiberglassreinforced polyester
- Globe heat- and impact-resistant internally fluted glass

Standard Finishes:

- Aluminum gray epoxy powder coat
- Krydon material high reflectance white
- Stainless steel natural



Accessories:

Reflectors (to be used with globe)
Type Cat. #

Dome RD739
30° Angle RA739

To be ordered separately.

Energy Savings

 Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output

Electrical Rating Ranges:

- Wattage: Two 26, 32, or 42 watt lamps
- 120–277V, 50–60Hz
- 347V, 60Hz
- 12, 24, and 125VDC

5

Suffix

Options:

Bootipion	Outlin
Restricted Breathing Construction	S826
Class I, Division 2 & Zone 2 Suitability	
Cooler Operating Temperatures (T-Numbers)	
	.S826TB
Furnished with	
Terminal Block	
Crimp Terminals	
Factory assembled with lamps installed for additional labor savings	FA
Fused – to protect ballast against abnormal line conditions (not available on CSA	
certified fixtures) (not suitable for marine applications)	S658
Lamps supplied with fixture	S714
Top hat with stainless steel threaded insert to attach ballast housing	
TEFLON® coating on globe for increased shatter protection	
Quick-Clip	S890

Champ® Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

> DMVF Series Fluorescent

Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence Marine & Wet Locations 3, 3R, 4, 4X; IP66

	77	m	3	
	m		D	
	No.	Ħ	3	

Hub Size (In.)	Luminaire Watts	with G303 Globe and P33 Guard Cat. #
3/4	52	DMVF2A052GP
1		DMVF3A052GP
3/4	64	DMVF2A064GP
1		DMVF3A064GP
3/4	84	DMVF2A084GP
1		DMVF3A084GP
	Size (In.) 3/ ₄ 1 3/ ₄ 1	Size (In.) Watts 3/4 52 1 3/4 64 1



3/4	52	DMVF2HA052GP
3/4	64	DMVF2HA064GP
3/4	84	DMVF2HA084GP
	3/4	3/4 64



3/4	52	DMVF2C052GP
1		DMVF3C052GP
3/4	64	DMVF2C064GP
1		DMVF3C064GP
3/4	84	DMVF2C084GP
1		DMVF3C084GP
	1 3/ ₄ 1	1 ³ / ₄ 64 1



Wall Mount	3/4	52	DMVF2TW052GP
Thru-Feed	1		DMVF3TW052GP
	3/4	64	DMVF2TW064GP
	1		DMVF3TW064GP
	3/4	84	DMVF2TW084GP
	1		DMVF3TW084GP



Quad-Mount	3/4	52	DMVF25Q052GP
Pendant, Adjustable	3/4	64	DMVF25Q064GP
Thru-Feed, 25° Angle,	3/4	84	DMVF25Q084GP
12½° Angle			



Stanchion Mount	11/2	52	DMVFJ052GP
25° Angle	11/2	64	DMVFJ064GP
· ·	11/2	84	DMVFJ084GP



Stanchion Mount	11/2	52	DMVFP052GP
Straight	1 1/2	64	DMVFP064GP
· ·	11/2	84	DMVFP084GP

Catalog numbers are basic numbers. Voltages must be specified.

	STANDARD VOLTAGE BALLASTS			TIONAL BALLA	STS
	NEC/UL & CEC/CSA (cUL)	CEC/CSA (cUL)			
Voltage	120-277V 50-60Hz	347V 60Hz	125V DC	12V DC	24V DC
Suffix	/UNV	/347	/125VDC	/012VDC	/024VDC

DMVF luminaires are available in components.

A complete luminaire consists of:

- I. Champ Cover (Mounting Module)
- II. DMVF Ballast Housing
- III. Globe, Globe Guard, Globe Reflectors

I. Champ Cover (Mounting Module):

Туре	Conduit	Cat. #
Pendant Mount	³/₄" 1	APM2 APM3
Flexible Pendant	3/4"	HPM2
Ceiling	³/₄" 1	CM2 CM3
Wall	³/₄" 1	TWM2 TWM3
Stanchion - 25 Degree Angle	11/2"	JM5
Stanchion - Straight	11/2"	PM5
Quad-Mount	3/4"	QM25

II. Ballast Housings:

Complete catalog number must have the **voltage suffix** (UNV shown) and any **options suffixes**.

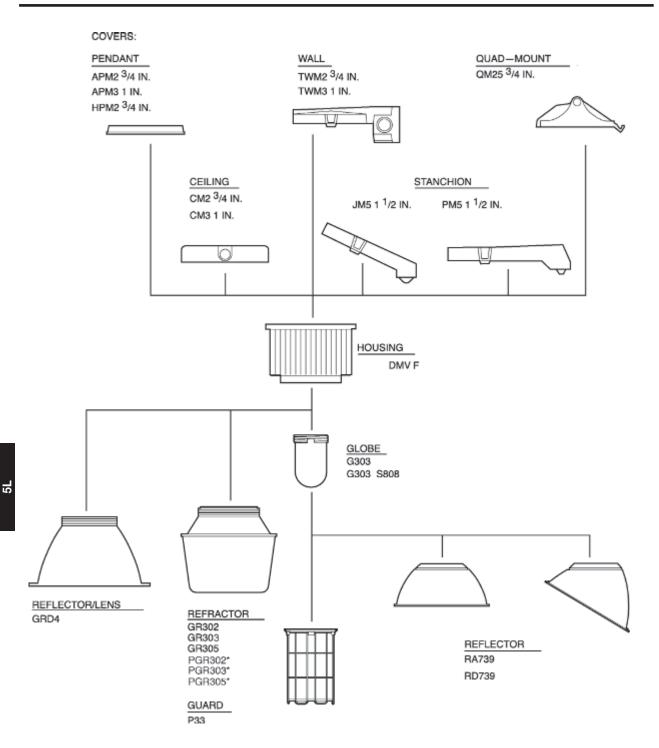
Lamp Type	Lamp Watts	Cat. #
Compact Fluorescent	2 (26W) 2 (32W) 2 (42W)	DMVF052/UNV DMVF064/UNV DMVF084/UNV

III. Globe, Guards and Reflectors:

Туре	Cat. #
Globe	G303
Teflon Coated	G303S808
Globe Guard	P33
Globe Reflector-Dome	RD739
Globe Reflector-Angle	RA739

5L DMVF Series Compact Fluorescent

Champ® Luminaires



^{*}These plastic reflectors are for non-hazardous areas only (50-100W max).

DMVF Series Compact Fluorescent

Champ® Luminaires

Temperature Performance Data:

	Minimum	Maximum	Class	ass I		Simultaneou		
Lamp Watts	Operating Temperature	Ambient Temp.	Non-restricted Breathing	Restricted Breathing	Class II	Non-restricted Breathing	Restricted Breathing	Supply Wire °C
Fluorescent:	DMVF		Div. 2	Zone 2 or Div. 2	Division 1	Cl. I, Div. 2/Cl. II	Cl. I, Zone 2 or Div. 2/Cl. II	
52 Watt	–20°C (4°F)	40°C (104°F)	Т3	T6	T6	T3/T6	Т6	60
64 Watt	–20°C (4°F)	40°C (104°F)	T3	T6	T6	T3/T6	Т6	60
84 Watt	–20°C (4°F)	40°C (104°F)	Т3	T6	T6	T3/T6	Т6	60

Net Luminaire Weights:

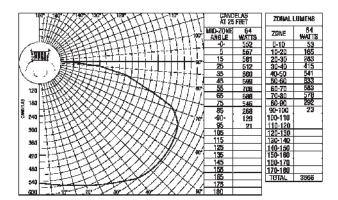
Luminaire Series	Lamp Watts	Luminaire with Globe, Guard (lbs.)
DMVF	52, 64, 84	181/4
Туре		Lbs.
Add for mounting	modules:	
Pendant		1 1/4
Flexible Pendant		1 1/ ₂
Ceiling		23/4
Wall		41/2
Quad-Mount		31/2
Angle Stanchion		31/2
Straight Stanchion		41/2
A dal face of a stance		

Add for reflectors:
Dome 111/4 30° Angle 13/4

Deduct: 1 lb. for luminaire with P33 Guard

5L DMVF Series Compact Fluorescent

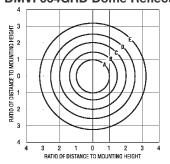
Champ® Luminaires



Note: For 52 watt DMVF applications, use a .75 multiplier.
For complete 84W IES files, please log onto www.crouse-hinds.com and go to Resources > Specification and Design Support > Photometric Files.

DMVF Photometric Data

Isofootcandle Chart: Luminaire with globe and dome reflector DMVF064GRD Dome Reflector



Footcandle Values for Isofootcandle Lines

Hgt.	Α	В	С	D	Е
8'	4.00	2.00	1.00	0.50	0.25
10'	2.56	1.28	0.64	0.32	0.16
12'	1.78	0.89	0.44	0.22	0.11
16'	1.00	0.50	0.25	0.13	0.06

DMVF064GRD Dome Reflector Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

Eff.					F	loom Ca	vity Ra	tio			
Ceil.	Wall	1	2	3	4	5	6	7	8	9	10
	50*	.741	.617	.524	.452	.396	.351	.314	.283	.258	.236
80*	30*	.694	.548	.445	.370	.314	.271	.237	.210	.188	.169
	10*	.652	.491	.382	.308	.254	.214	.183	.159	.140	.125
	50*	.722	.601	.510	.440	.386	.342	.307	.277	.252	.231
70*	30*	.679	.537	.437	.364	.309	.267	.234	.207	.185	.167
	10*	.640	.483	.378	.305	.252	.212	.182	.158	.139	.124
	50*	.686	.570	.484	.418	.367	.326	.293	.265	.242	.223
50*	30*	.650	.516	.421	.351	.299	.259	.227	.202	.181	.163
	10*	.617	.470	.369	.299	.247	.209	.180	.155	.138	.123
	50*	.653	.542	.460	.398	.350	.311	.280	.254	.233	.214
30*	30*	.623	.497	.406	.340	.290	.251	.221	.197	.176	.160
	10*	.596	.457	.361	.293	.243	.206	.177	.154	.136	.121
	.50*	.622	.516	.437	.379	.333	.297	.268	.244	.224	.206
10*	30*	.598	.478	.392	.329	.271	.244	.215	.192	.172	.156
	10*	.576	.444	.352	.287	.239	.203	.175	.152	.135	.120
0*	0*	.557	.424	.332	.267	.220	.184	.157	.136	.119	.105

^{*}Percent Reflectance.

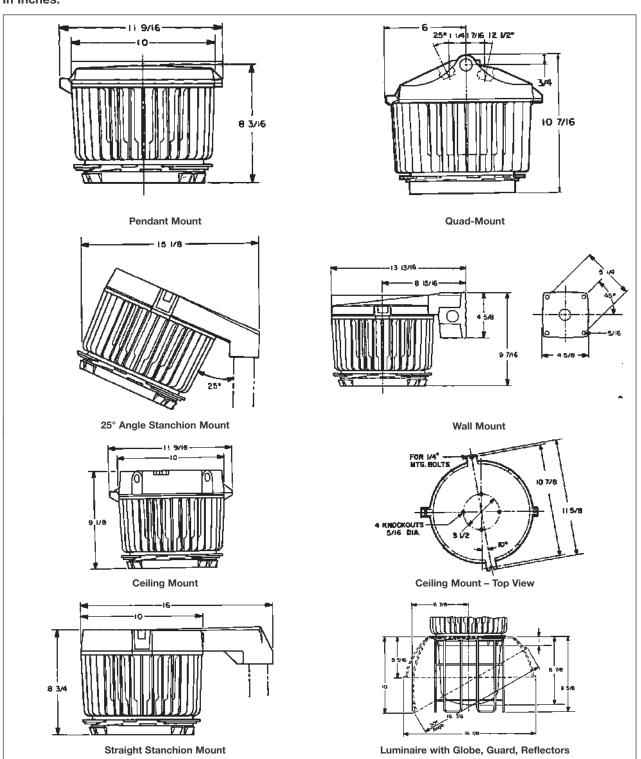
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DMVF Series Compact Fluorescent

Champ® Luminaires

Dimensions

In Inches:



N2MVF Series Compact Fluorescent

Cl. II, Groups F, G

Cl. III & Simultaneous Presence

Cl. I, Div. 2, Groups A, B, C, D

Marine & Wet Locations 3, 3R, 4, 4X; IP56

Champ® Non-metallic Luminaires

Applications:

N2MVF Series Champ Luminaires are

- · In areas in which ignitable concentrations of flammable gases or vapors will be present due to abnormal, unusual or accidental conditions
- In installations where moisture, dirt. vibration, corrosion, or rough usage are concerns
- · Wherever the damaging effects of water, wind, snow, sleet, hot sun, or any combination of these elements are found
- Ideal for marine use; resists the harmful effects of salt water
- Withstands the harshest of corrosive environments
- · To provide low wattage spot and floodlighting
- · For general area lighting
- In manufacturing plants, refineries, chemical, petrochemical and other industrial process facilities, wastewater and sewage treatment facilities, offshore, dockside, and harbor installations as well as other heavy industrial applications

Features and Benefits:

- · Housings and mounting modules made of polyphenylene sulfide (PPS) for strength and maximum resistance to corrosion
- · Pendant mounting module equipped with integral hub set screws for vibration resistance
- Hubs are provided with an integral bushing to help prevent damage to field wiring during installation and ground connection for positive bonding
- Guard, hub inserts, stanchion elbow, and hardware made of stainless steel for maximum resistance to corrosion
- · Grounding wire for safety
- Stainless steel open bottom guard permits direct access to the globe for easy relamping
- Hinged assembly allows the luminaire to hang free during installation to permit the use of both hands when wiring
- · One external captive screw for ease of installation
- · Handle hinge assembly doubles as a handle for ease of installation, especially when carrying up a ladder

Additional Features:

Fluorescent Energy Savings

 Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output

Certifications and Compliances:

- NEC and CEC:
 - Class I, Division 2, Groups A, B C, D Class II, Class III & Simultaneous Presence (Class I, Division 2 and II)
- UL Standards: 844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations
- CSA Standards: C22.2 No. 137

Standard Materials:

- · Housing, mounting modules polyphenylene sulfide (PPS)
- · Guard, hub inserts, stanchion elbow, hardware - stainless steel
- Globe heat- and impact-resistant, internally fluted glass
- Gaskets silicone rubber

Electrical Ratings:

- Wattages: Two 26 or 32 watt
- 120-277V, 50-60Hz
- 347V, 60Hz
- 12, 24, and 125 VDC



Options:

Description Suffix Wall-Mount Arm For converting a ceiling-mount luminaire to a wall mount N2MV-WM1

Factory Assembled For a factory assembled luminaire with lamps installed

Fusing To protect ballast against abnormal line conditions (not

suitable for marine applications) Furnished with Lamps **Teflon Coated Globe** Provides additional protection

against shattered glass fragments when subject to thermal shock, etc. S808

Average Luminaire Weight Description Lbs.

Body, mounting module, globe, 30 guard, and reflector

With G303

Ordering Information:

Mounting Style	Hub Size in.	Lamp Watts	Globe and P33 Guard Cat. #
	3/ ₄ 1	52	N2MVF2A052GP N2MVF3A052GP
Pendant Mount	³/₄ 1	64	N2MVF2A064GP N2MVF3A064GP
Ceiling Mount	³/ ₄ 1	52	N2MVF2C052GP N2MVF3C052GP
Thru-Feed	³/₄ 1	64	N2MVF2C064GP N2MVF3C064GP
Stanchion Mount 25° Angle	1½ 1½	52 64	N2MVFJ052GP N2MVFJ064GP

	Standard Voltage Ba	0	ptional Ballasts	3	
	NEC/UL & CEC/CSA (cUL)	CEC/CSA (cUL)		•	
Voltage	120-277V 50-60Hz	347V 60Hz	125V DC	12V DC	24V DC
Suffix	/LINIV	/347	/125VDC	/012VDC	/024VDC

Temperature Performance Data:

			Class I		
Lamp Watts	Minimum Operating Temperature	Maximum Ambient Temp.	Non-restricted Breathing	Class II	Supply Wire °C
Fluorescent:	N2MVF		Division 2	Division 1	
52 & 64 Watt	-18°C (0°F)	40°C (104°F)	T2D	T4	85

Crouse-Hinds by F:T.N

N2MVF Series - Ordering by Components

N2MVF Luminaires are available in components.

A complete luminaire consists of:

- I. N2MV Cover (Mounting Module)
- II. N2MV Ballast Housing
- III. Globe, Refractors, Guards, Reflectors

I. N2MV Cover (Mounting Module):

Туре	Conduit	Cat. #
Pendant	3/4" 1"	N2APM2 N2APM3
Ceiling	3/4" 1"	N2CM2 N2CM3
Wall (Use wall bracket accessory with Ceiling Cover)	3/4" 1"	N2MV WM1 and N2CM2 N2MV WM1 and N2CM3
Stanchion – 25 Degree Angle	11/2"	N2JM5

II. Ballast Housings:

Complete catalog number must have the voltage suffix (UNV shown) and any options suffixes.

Туре	Watts	Cat. #
Compact Fluorescent	2 (26W)	N2MVF052/UNV
	2 (32W)	N2MVF064/UNV

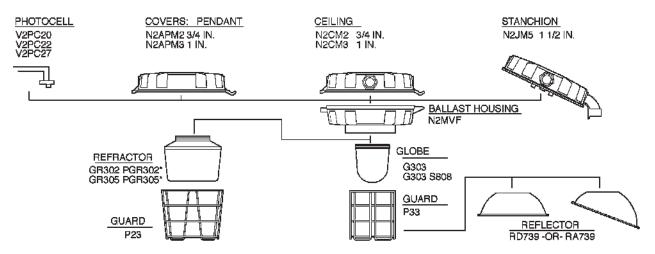
III. Globe, Guards, and Reflectors:

Туре	Cat. #
Globe	G303
Globe Teflon Coated	G303S808
Globe Guard	P33
Reflector Dome	RD739
Reflector Angle	RA739

5L N2MVF Series Compact Fluorescent

Champ® Non-metallic Luminaires

A complete luminaire consists of a cover mount, a ballast housing and a globe, with or without guard, refractor or reflector.



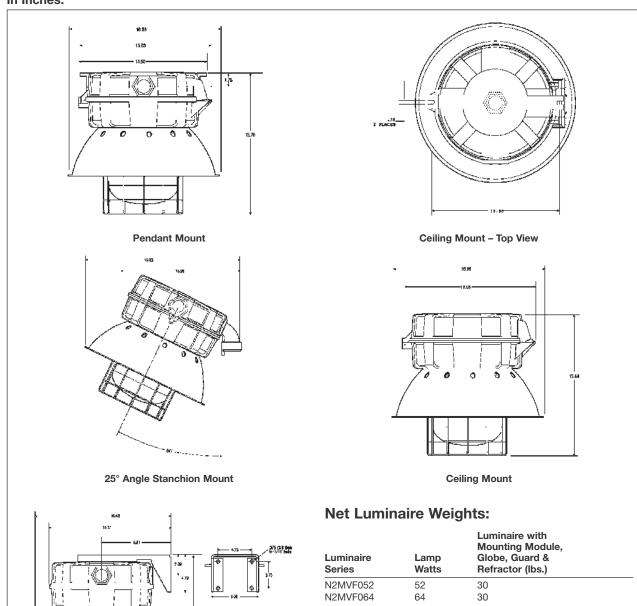
All Components are suitable for use in ordinary locations, Class I, Div. 2 and wet locations.

N2MVF Series Compact Fluorescent

Champ® Non-metallic Luminaires

Dimensions

In Inches:



Accessories:

Reflectors (to be used with globe)

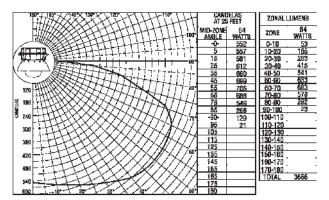
Cat. #
RD739 (RD79
RA739 (RA79)

To be ordered separately.

Wall Arm Mount

5L N2MVF Series Compact Fluorescent

Champ® Non-metallic Luminaires

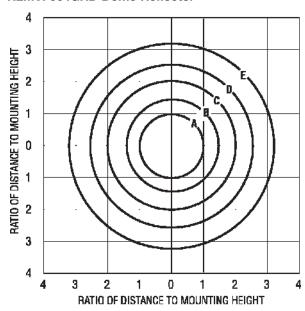


Note: For 52 watt N2MVF applications, use a .75 multiplier.

N2MVF Photometric Data

Isofootcandle Chart: Luminaire with globe and dome reflector

N2MVF064GRD Dome Reflector



Footcandle Values for Isofootcandle Lines

Mounting Height	Α	В	С	D	E
8'	4.00	2.00	1.00	0.50	0.25
10'	2.56	1.28	0.64	0.32	0.16
12'	1.78	0.89	0.44	0.22	0.11
16'	1.00	0.50	0.25	0.13	0.06

N2MVF064GRD Dome Reflector Coefficients of Utilization

Effective Floor Cavity Reflectance 20%

F-66						Room	Cavity Rati	0			
Eff. Ceil.	Wall	1	2	3	4	5	6	7	8	9	10
	50*	.741	.617	.524	.452	.396	.351	.314	.283	.258	.236
80*	30* 10*	.694 .652	.548 .491	.445 .382	.370 .308	.314 .254	.271 .214	.237 .183	.210 .159	.188 .140	.169 .125
	50*	.722	.601	.510	.440	.386	.342	.307	.277	.252	.231
70*	30*	.679	.537	.437	.364	.309	.267	.234	.207	.185	.167
	10*	.640	.483	.378	.305	.252	.212	.182	.158	.139	.124
	50*	.686	.570	.484	.418	.367	.326	.293	.265	.242	.223
50*	30*	.650	.516	.421	.351	.299	.259	.227	.202	.181	.163
	10*	.617	.470	.369	.299	.247	.209	.180	.155	.138	.123
	50*	.653	.542	.460	.398	.350	.311	.280	.254	.233	.214
30*	30*	.623	.497	.406	.340	.290	.251	.221	.197	.176	.160
	10*	.596	.457	.361	.293	.243	.206	.177	.154	.136	.121
-	50*	.622	.516	.437	.379	.333	.297	.268	.244	.224	.206
10*	30*	.598	.478	.392	.329	.271	.244	.215	.192	.172	.156
-	10*	.576	.444	.352	.287	.239	.203	.175	.152	.135	.120
0*	0*	.557	.424	.332	.267	.220	.184	.157	.136	.119	.105

*Percent Reflectance.

Marine & Wet Locations 3, 3R, 4, 4X; IP66

EVLPF Series Compact Fluorescent

Low Profile Hazard•Gard®

Luminaires

Applications:

Eaton's Crouse-Hinds Low Profile Hazard • Gard® luminaires are used in:

- Areas where flammable or explosive vapors or gases are present
- · Hazardous areas, both indoors and outdoors, where long life and low maintenance costs are desired
- · Petroleum refineries, chemical, petrochemical and pharmaceutical plants, oil terminals, gas plants and other heavy process industry facilities
- Waste treatment facilities
- Drilling platforms and other coastal and offshore hazardous areas

Features and Benefits:

- Small, compact size
- Two start Acme threaded construction
- · Lightweight copper-free aluminum housing with powdered epoxy finish
- · All exterior hardware is corrosionresistant stainless steel
- · Four mounting arrangements pendant, ceiling, wall bracket, and stanchion
- Wide range of light sources and wattages
- Marine and NEMA 4X construction
- Integral ballast
- High power factor (90%+) ballasts
- · Uses same mounting modules as the standard Hazard • Gard®
- · Internally fluted glass globes
- Krydon® construction dome and angle reflectors - won't rust, corrode, dent, chip, or peel
- Now available in components luminaire body, mounting module, guard, reflectors
- Three wire construction is standard on fluorescent emergency lighting
- · Perfect where low mounting restrictions are a concern
- Easier assembly, installation and maintenance
- Superior corrosion resistance
- Suit any lighting layout
- · Meet specific lighting needs
- · Outdoor, hose down, marine, and corrosive environments suitable
- · Lowest installed cost
- Allows more luminaires per circuit
- Easy retrofitting when the EVLPF is the preferred choice
- · Reduces glare and distributes light evenly - ideal for adverse environments typical of industrial facilities
- · Easily stocked for quick ship requirements
- For energy conservation, luminaires can be switched off without affecting the emergency operation feature



Cl. I, Div. 1, Groups B

Cl. I, Zone 1, Groups IIB + H2

Cl. II, Div. 1, Groups E, F, G

(GB Suffix), C, D

(GB Suffix). IIB. IIA

Certifications and **Compliances:**

NEC and CEC:

Class I, Division 1, Groups B (GB suffix), C, D Class I, Zone 1, Groups IIB + H₂ (GB Suffix), IIB, IIA Class II, Class III & Simultaneous Presence

(Class I and Class II) UL Standards:

844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations

 CSA Standards C22.2 No. 137

Standard Materials:

- Mounting modules, cover, ballast housing, globe holder - copper-free aluminum
- · Globe heat- and impact-resistant glass
- Exterior hardware stainless steel
- Reflectors (dome & angle) Krydon[®] fiberglass-reinforced polyester

Standard Finishes:

- Copper-free aluminum Corro-free™ powdered epoxy
- Krydon white
- Stainless steel guard

Ratings (Electrical/Size):

Sources/Wattage:

- 52W (two 26W lamps) & 64W (two 32W lamps)
- 120-277V, 50-60Hz
- 347V, 60Hz
- 12, 24, 125 VDC

Conduit Entries:

- 3/4", 1" NPT Pendant, Wall Bracket, Ceiling
- 11/4" NPT Stanchion

Options: Description

Group B suitability Fused (not suitable for marine applications) Factory assembled with lamps	S658
Accessories: Description	Cat. #
Dome reflector Angle reflector	

Suffix

EVLPF Series Compact Fluorescent

Low Profile Hazard•Gard® Luminaires

Cl. I, Div. 1, Groups B (GB Suffix), C, D Cl. I, Zone 1, Groups IIB + H₂ (GB Suffix), IIB, IIA Cl. II, Div. 1, Groups E, F, G Class III, Simultaneous Presence

Marine & Wet Locations 3, 3R, 4, 4X; IP66



Pendant Mount

		Pendant	Wall Bracket*	Ceiling*	Stanchion	Luminaire Body Less Mounting Module & Guard
	Hub	With Guard	With Guard	With Guard	With Guard	
Watt	Size (In.)	Cat. #	Cat. #	Cat. #	Cat. #	Cat. #
Fluore	scent-Hi	gh Power Fact	or Ballast (Min. F	P.F. 90%)		
	3/4	EVLPFA02521	EVLPFBX02521	EVLPFCX02521		EVLPF0520
52W	1	EVLPFA03521	EVLPFBX03521	EVLPFCX03521		
	11/4				EVLPFJ04521	
	3/4	EVLPFA02641	EVLPFBX02641	EVLPFCX02641		EVLPF0640
64W	1	EVLPFA03641	EVLPFBX03641	EVLPFCX03641		
	1 1/4				EVLPFJ04641	



*Wall Bracket Mount

		Pendant	Wall Bracket*	Ceiling*	Stanchion
	Hub	Without Guard	Without Guard	Without Guard	Without Guard
Watt	Size (In.)	Cat. #	Cat. #	Cat. #	Cat. #
Fluores	scent-Hig	h Power Factor Ba	llast (Min. P.F. 90%)		
	3/4	EVLPFA02520	EVLPFBX02520	EVLPFCX02520	
52W	1	EVLPFA03520	EVLPFBX03520	EVLPFCX03520	
	1 1/4				EVLPFJ04520
	3/4	EVLPFA02640	EVLPFBX02640	EVLPFCX02640	
64W	1	EVLPFA03640	EVLPFBX03640	EVLPFCX03640	
	1 1/4				EVLPFJ04640

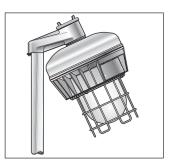
Complete Catalog Number as follows:

Voltages - Add suffix as follows:



*Ceiling Mount

	Standard Voltage Ballasts - 60		Optional Ballasts		
	NEC/UL & CEC/CSA (cUL)	CEC/CSA (cUL)			
Voltage Suffix	120–277V 50–60Hz /UNV	347V 60 Hz /347	125V DC /125VDC	12V DC /012VDC	24V DC /024VDC



Stanchion Mount

2F

EVLPF Series Ordering By Components

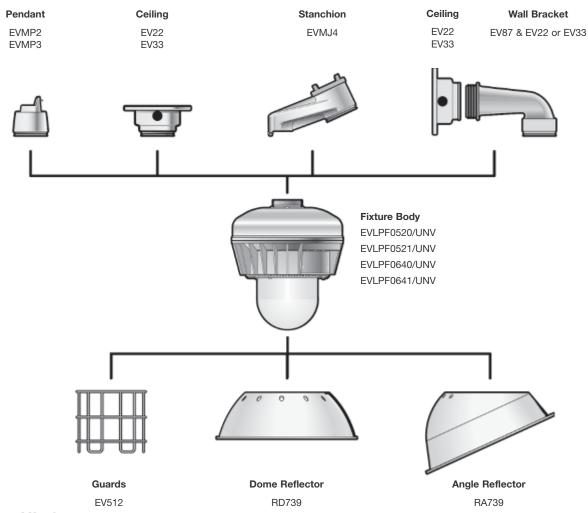
EVLP Luminaires are available in components.

A complete light fixture consists of:

- I. Mounting Module
- II. Fixture Body
- III. Guard, Dome Reflector, Angle Reflector, or Exit Sign

Mounting Modules:

Туре	Conduit	Cat. #
Pendant	³ / ₄ " 1	EVMP2 EVMP3
Ceiling & Wall Box	³ / ₄ " 1	EV22 EV33
Wall Bracket Arm Stanchion	Use EV22 or EV33 box with EV87 11/4"	EV87 EVMJ4
Guards Fluorescent		EV512
Reflectors Dome Angle		RD739 RA739



5L EVLPF Series Compact Fluorescent

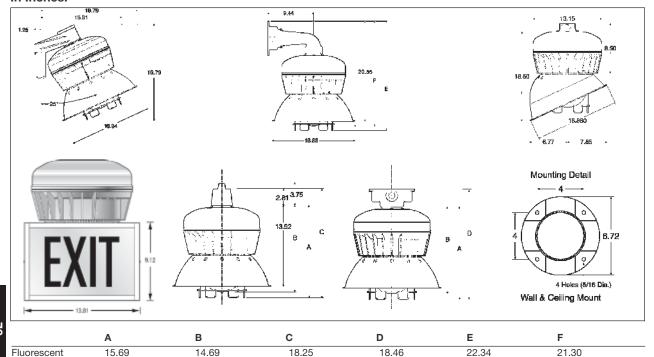
Low Profile Hazard•Gard® Luminaires

Temperature Performance Data:

Fluorescent Fixtures Maximum Ambient	(w/GB suffix) Groups C, D Class I, Zone I 40°C	Class II, Groups E, F, G Class III Simultaneous Presence 40°C	Supply Wire °C	Minimum Operating Temperature	
Fluorescent 52W & 64W	T6	T6	75°C	-18°C	

Dimensions

In Inches:



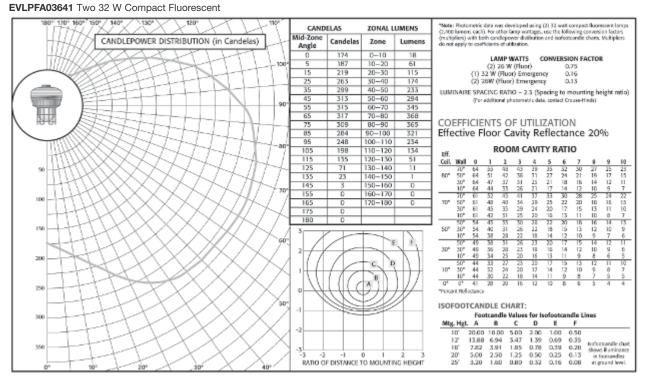
Weights:

3		
Item	Lbs.	
Fluorescent (EVLPF)	31.5	
Add Mounting Modules:		
Pendant	1	
Ceiling	2	
Bracket	4.5	
Stanchion	2.5	
Add For Reflectors & Exit Sign:		
RA739	1	
RD739	1	
DMVF-EXD	5	
Deduct .5 lb for Wire Guard		

EVLPF Series Compact Fluorescent

Low Profile Hazard • Gard ® Luminaires

Luminaire with Globe and Guard

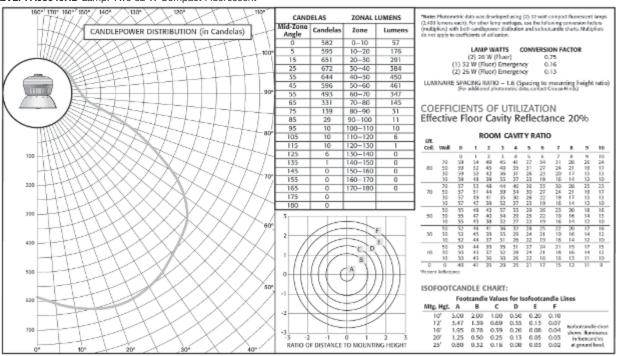


5L EVLPF Series Compact Fluorescent

Low Profile Hazard • Gard ® Luminaires

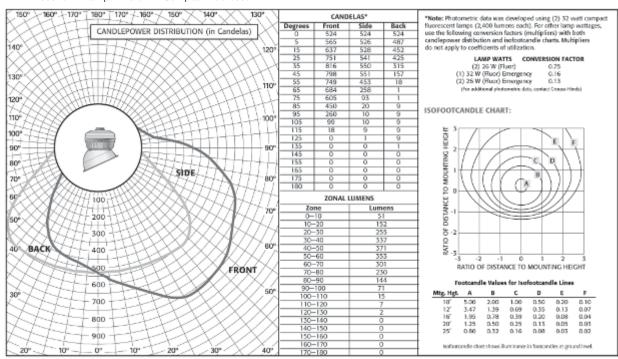
Luminaire with Globe and Dome (Less Guard)

EVLPFA03640RD Lamp: Two 32 W Compact Fluorescent



Luminaire with Globe and 30° Angle Reflector (Less Guard)

EVLPFA03640RA Lamp: Two 32 W Compact Fluorescent



5

5L

Marine & Wet Locations

FVS Series Long Twin Tube

Fluorescent Luminaires

Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III, Simultaneous Presence

Applications:

FVS Compact Fluorescent Luminaires are used:

- Where low mounting heights or limited mounting room exists
- · For task oriented lighting
- Where a cool, efficient light source is required
- In areas that require lamps to reach full illumination immediately
- In industrial and chemical processing
- · In pulp and paper facilities
- In waste or sewage treatment facilities
- In non-hazardous commercial and industrial areas
- In food and pharmaceutical plants where a non-glass lens is required
- Where fluorescent lighting has been preferred, but unavailable due to limited space and practicality

Features:

- Compact, lightweight, low profile design is ideal for confined areas and tight corners
- Reaches full illumination immediately and delivers light output equivalent to fixtures twice its size
- Fast-Latch™ closure provides quick and easy access for relamping and maintenance – no tools necessary
- Silicone sealing gasket provides exceptional watertight and dust-tight bond, providing excellent performance in wet and corrosive environments
- Power disconnect switch (Eaton's Crouse-Hinds ESWP) automatically cuts power to the lamps and ballast when the lens is opened
- Shatter-resistant polymeric lens (0.125 thick) provides environmental and corrosion protection
- Available in UNV (120-277) and 347 50/60 Hz voltages
- Two lamp fixture, uses single-ended 40 watt lamps
- Multiple mounting capability
- Energy saving electronic ballast is standard

Standard Materials:

- Corrosion-resistant die cast copper-free aluminum housing
- Shatter-resistant nylon lens
- Polycarbonate lens (suffix -S813)
- Silicone rubber gasket
- Extruded aluminum hinges and closure hardware with stainless steel pivots

Standard Finishes:

- · Epoxy powder coated housing
- Anodized hinges and closure hardware
- Highly specular aluminum reflector

Certifications and Compliances:

NEC and CEC:

Class I, Division 2, Groups B, C, D Class II, Division 1, Groups E, F, G (Suffix S813) Class II, Division 2, Groups F, G

Class III & Simultaneous Presence (Cl. I and Cl. II)

Note: Aiming Limitations

Cl. II, Cl. III & Simultaneous Presence Aim down to Horizontal Cannot aim up

- UL Standards
 844 Hazardous (Classified) Locations
 1598 Luminaires
 1598A Marine Locations
- CSA Standards
 C22.2 No. 137

Size Ranges:

3, 3R, 4, 4X; IP66

- All luminaires are 24"
 L x 12" W x 3.12" H
- Conduit entrances are ³/₄"

Electrical Ratings:

- UNV (120-277V), 50-60 Hz
- 347V, 60 Hz
- Two 40 watt long twin tube lamps

Accessories

FVS Trunnion Mount Kit (FVS-K5)

- Permits vertical mounting of luminaire on a beam when used with a standard beam clamp
- Can be mounted directly to a wall or ceiling
- Can be pole mounted when used in conjunction with a SFA6 slipfitter adapter (ordered separately)
- Constructed from copper-free aluminum
- Supplied with a CGB cord connector



FVS with Trunnion Arm and Slipfitter

Options:

D	escription	Suffix
•	Fused to protect ballast under abnormal line conditions (not available on CSA	
	certified fixtures) (not suitable for marine applications)	S658
•	Fixture supplied with two F40BX/SPX35 lamps	S714
•	Corro-free [™] epoxy finish inside and out	S753
•	Tamperproof Consult Eaton's Crouse	-Hinds

Temperature Performance Data:

Style	Ambient Temp °C	Class I, Div. 2	Class II See Aiming	Simultaneous Presence Limitations	Supply Wire	Minimum Operating Temperature
All	40°C	T3C	T6	T3C/T6	75°C	-18°C (0°F)
All	55°C	T3C	_	_	75°C	-18°C (0°F)

Luminaire Weight: Without Lamps

Туре	lbs.
Standard 2 lamp FVS	12.0

FVS Series Long Twin Tube

Fluorescent Luminaires

Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G

Cl. II, Div. 2, Groups F, G

Cl. III, Simultaneous Presence

Marine & Wet Locations 3, 3R, 4, 4X; IP66

Luminaire includes all necessary provisions for these installations:











Ceiling Mount

Pendant Mount

Corner Mount

Horizontal Wall Mount

Vertical Wall Mount

FVS compact fluorescent (2 lamp luminaire):

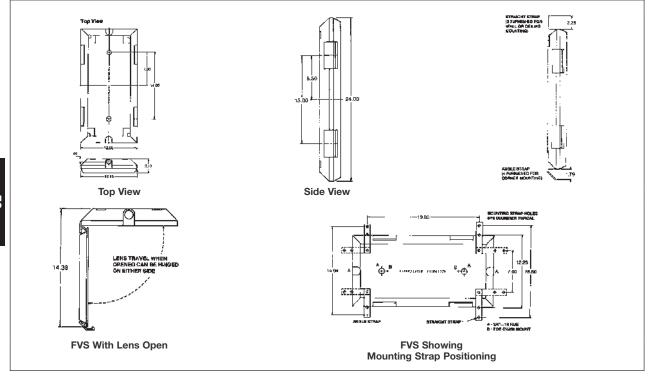
Voltage	Wattage/ Lamp	Hub Size (4)	Cat. #	Class II, Div. 1 Suitability
120–277 (50 or 60 Hz)	40	3/ ₄ "	FVS20/UNV	FVS20/UNV S813
347 (50 or 60 Hz)	40	3/ ₄ "	FVS23	FVS23 S813

Accessories (Ordered Separately):

D	escription	Cat. #
	Trunnion arm kit	FVS K5
•	Slipfitter adapter to be used with trunnion arm	SFA6

Dimensions:

FVS with Trunnion Arm: 261/4" x 13.5" W x 3.12" H



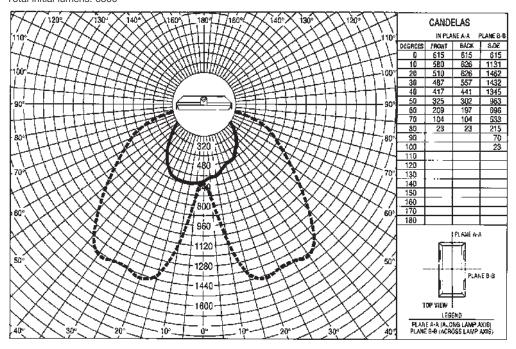
5L

FVS Series Long Twin Tube

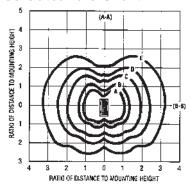
Fluorescent Luminaires

Luminaire: FVS

Lamp: (2) F40BX/SPX35/RS single-ended fluorescent. Total initial lumens: 6300



Isofootcandle Chart



Footcandle Values for Isofootcandle Lines

мtg. Hgt.	Α	В	С	D	E
8'	5.00	3.00	1.00	0.50	0.20
10'	3.20	1.92	0.64	0.32	0.13
12'	2.22	1.33	0.44	0.22	0.09
16'	1.25	0.75	0.25	0.13	0.05

Spacing to Mounting Height Ratio

Along lamp axis (A-A) 0.6 Across lamp axis (B-B) 1.1

Coefficients of Utilization

Effective Floor Cavity Reflectance 20%

F		,			F	Room C	avity Ra	atio			
Eff. Ceil.	Wall	1	2	3	4	5	6	7	8	9	10
80*	50*	.621	.538	.469	.414	.367	.329	.297	.269	.246	.225
	30*	.594	.495	.419	.359	.312	.273	.242	.216	.195	.176
	10*	.569	.459	.378	.317	.270	.234	.204	.180	.160	.144
70*	50*	.606	.526	.459	.405	.360	.323	.291	.265	.242	.222
	30*	.582	.487	.412	.354	.308	.270	.240	.214	.193	.175
	10*	.560	.453	.374	.314	.268	.232	.203	.179	.160	.143
50*	50*	.580	.503	.441	.389	.347	.311	.281	.256	.234	.216
	30*	.560	.470	.400	.345	.300	.265	.235	.210	.190	.172
	10*	.541	.442	.367	.310	.265	.230	.201	.178	.159	.143
30*	50*	.555	.483	.423	.374	.334	.301	.272	.248	.227	.210
	30*	.539	.455	.389	.336	.293	.259	.230	.207	.187	.170
	10*	.524	.431	.360	.305	.262	.227	.199	.176	.157	.142
10*	50*	.533	.464	.407	.361	.322	.290	.264	.241	.221	.204
	30*	.520	.441	.378	.327	.287	.254	.226	.203	.184	.167
	10*	.507	.421	.353	.300	.258	.225	.197	.175	.156	.141
0*	0*	.494	.407	.339	.286	.245	.212	.185	.163	.145	.130

*Percent Reflectance.

†FVS suitable for Class II, Div. 1, Groups E, F, G when ordered with suffix S813.

Crouse-Hinds

EVFT Illuminator™ Long Twin Tube

Fluorescent Luminaires

Cl. I, Div. 1, Groups B & C (suffix GB), D

Cl. I, Zone 1, Group IIB + H₂ (suffix GB), IIA

Cl. II, Div. 1, Groups E, F, G

Cl. III Simultaneous Presence

Paint Spray Marine & Wet Locations 3, 3R, 4, 4X; IP66

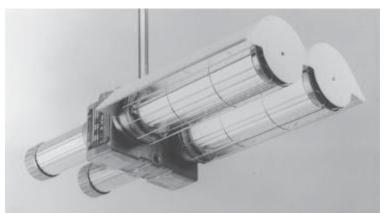
Applications:

Illuminator™ Compact Fluorescent Luminaires are used:

- In areas made hazardous by the presence of flammable gases and vapors, combustible dusts, or easily ignitable fibers and flyings
- In areas where combustible dusts and flammable gases are present simultaneously
- In applications involving low mounting heights, restricted mounting space, or where luminaire weight must be minimized
- In areas where corrosion, vibration, moisture, dirt, and rough usage are a problem
- In refineries, chemical and petrochemical facilities, grain processing, handling and storage facilities, manufacturing plants, wastewater treatment facilities, airline and mass transit maintenance areas, paint spray facilities, breweries, pharmaceutical plants, and other areas where safe, reliable hazardous area lighting is required in a compact, cool operating and efficient light source

Features:

- Efficient fluorescent light source in 78 and 156 watts
- Adjustable right and left asymmetrical reflectors provide excellent light "aimability" – ideal for task oriented lighting
- Compact, lightweight, and low profile design allows easy installation and broad industrial application
- Cast copper-free aluminum with epoxy powder finish (less than 0.4 of 1% copper) provides excellent resistance to corrosion
- Versatile luminaire housing provides choice of pendant, wall, or ceiling mount
- Suitable for paint spray areas; linear light source provides excellent color rendition for paint spray tasks; easy to install, disposable, clear tube wrap helps maintain maximum light output during painting operations
- Threaded construction, factory wiring and sealing help minimize installation time; no external seals are required
- Fixtures are used with two or four long twin tube single-ended fluorescent lamps
- Optional stainless steel guard provides extra protection for lamps and lamp tube
- Optional clear polycarbonate tube provides 360° protection for lamps and lamp tube; ideal for maintenance pit and pharmaceutical applications
- · Grounding connection for safety
- Available for 120 or 277 VAC
- Standard electronic ballast



4 lamp with stainless steel wire guard and adjustable reflectors

Certifications and Compliances:

• NEC and CEC:

Class I, Division 1, Group D

Class I, Division 1, Group B, C, D (suffix GB)

Class I, Zone 1, Group IIA

Class I, Zone 1, Group IIB + H2 (suffix GB)

Class II, Groups E, F, G

Class III

Simultaneous Presence (Cl. I and Cl. II) Paint Sprav

Note: Aiming Limitations

Cl. II, Cl. III & Simultaneous Presence

- Aim Down to Horizontal
- Cannot aim up
- UL Standards:

844 Hazardous (Classified) Locations 1598 Luminaires

1598A Marine Locations

CSA Standards:

C22.2 No. 137

Options:

-	
Description	Suffix
Fused to protect circuit under	
abnormal conditions (not available	
on CSA certified luminaires) (not	
suitable for marine applications)	S658
Luminaire supplied with lamps	S714
Class I, Groups B and C suitability	
pendant mount only	GB

Electrical Ratings:

- Input voltage 120 or 277 VAC, 60 Hz
- Wattages 78 2 lamp luminaire
 156 4 lamp luminaire

Fixture Weights

Illuminator	lbs.
2 lamp with guard	19.5
4 lamp with guards	
RAL1, RAR1 reflectors (each)	3.0
Deduct for luminaire without P51 Gua	ard:
1 lb. for 2 lamp	
2 lbs. for 4 lamp	

Standard Materials:

- Center and ballast housings, end caps copper-free aluminum
- Lamp tube heat-resistant glass
- Guards stainless steel or clear polycarbonate material
- Reflectors aluminum

Standard Finishes:

- Center and ballast housings, end caps, guards – natural
- Reflectors white epoxy finish

Temperature Performance Data:

Luminaire Type	Minimum Operating Temp.	Maximum Ambient Temp.	Class I, Division 1 & Zone 1 Class II, Division 1 Simultaneous Presence	Supply Wire
2 and 4 Lamp	10°C (50°F)	40°C (104°F)	T4A	75°C

EVFT Illuminator™ Long Twin Tube

Fluorescent Luminaires

Cl. I, Div. 1, Groups B & C (Suffix B), D Cl. I, Zone 1, Groups IIB + H_2 (Suffix B), IIA Cl. II, Div. 1, Groups E, F, G

Cl. III, Simultaneous Presence

Class I

Paint Spray Marine & Wet Locations 3, 3R, 4, 4X; IP66

Ordering Information:

			Cat. # with Gro	oup D Suitability	Cat. # with Group E	3, C & D Suitability
Style	Hub	Luminaire	Without	With P51	Without	With P51
	Size (In.)	Voltage	Guard	Guard†	Guard	Guard†
2 Lamp	3/ ₄	120	EVFT22320	EVFT22321	EVFT22320 GB	EVFT22321 GB
	3/ ₄	277	EVFT22370	EVFT22371	EVFT22370 GB	EVFT22371 GB
4 Lamp	3/ ₄	120	EVFT24320	EVFT24321	EVFT24320 GB	EVFT24321 GB
	3/ ₄	277	EVFT24370	EVFT24371	EVFT24370 GB	EVFT24371 GB

[†]P51 supplied in separate carton.

Accessories:

Туре	Cat. #
Stainless steel wire guard Reflector right hand	P51 RAR1
 Reflector left hand Polycarbonate tube (not used with optional stainless 	RAL1
till used with optional stallless steel wire guard) Disposable clear wrap – 5 pack (for use with optional	PG1
polycarbonate tube)	PTW1



RAL1 RAR1
Reflectors (as viewed facing front of fixture)
Note: For 4 lamp unit, you must order one of each refractor, if required.



Stainless steel guard



Polycarbonate tube and retaining plate



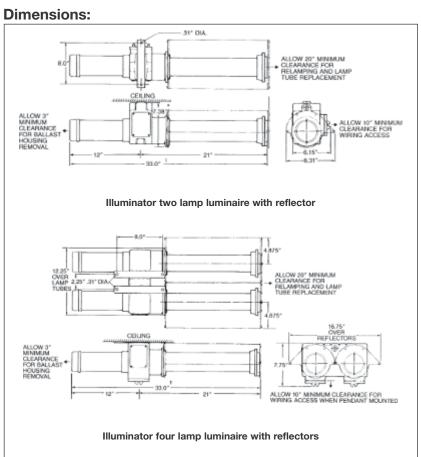
Disposable polyester tube wrap (used over optional polycarbonate tube)

Aiming Limitations:

In Class II, Class III and Simultaneous Presence locations

- Aim down to horizontal
- To prevent dust from accumulating in reflector, do not aim up
- The Illuminator lighting fixtures are designed for operation with the lamp in a **horizontal to** base down position

Class I



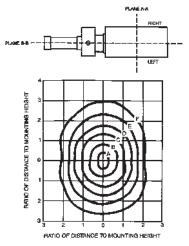
‡For GB suffix (Groups B & C) this dimension is 34.0". For CSA certified fixtures this dimension is 35 $\%_{16}$ ". For GB suffix (Groups B & C) this dimension is 8.38".

EVFT Illuminator™ 5L **Long Twin Tube**

Fluorescent Luminaires

Illuminator two lamp luminaire with reflector (without guard) Lamps: Two 39 watt ${\rm BIAX}^{\star}$ fluorescent

		DELAS ne A-A	Plane B-B
DEGREES	LEFT	RIGHT	SIDE
0	729	729	729
10	792	797	703
20	820	821	658
	757	777	
30			582
40	648	709	488
50	567	632	370
60	474	535	239
70	340	469	109
80	201	312	21
90	102	116	
100	9	7	
110			
120			
130			
140			
150			
160			
170			
180			
130			



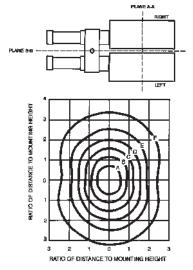
Footcandle Values for Isofootcandle Lines

Mtg. Ht.

(ft.)	Α	В	С	D	E	F
8	10.0	5.00	2.00	1.00	0.50	0.25
10	6.4	3.20	1.28	0.64	0.32	0.16
12	4.4	2.22	0.89	0.44	0.22	0.11
16	2.5	1.25	0.50	0.25	0.13	0.06

Illuminator four lamp luminaire with reflectors (without guards) Lamps: Four 39 watt BIAX* fluorescent

		DELAS		
	in Pla	ne A-A en	Plane B-B	<i> </i>
DEGREES	LEFT	RIGHT	SIDE	H-LITH-ID-XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0	1486	1486	1486	W-H-11-H-12-H-12-H-12-H-12-H-12-H-12-H-1
10	1601	1520	1448	HHHATTHE SECTION SEETHELL
20	1633	1615	1346	
30	1570	1602	1199	HHHLLITHE
40	1530	1558	1000	
50	1343	1390	763	H++TI++12488888888888888888888888888888888888
60	1162	1208	492	
70	803	921	225	
. 80	375	488	45	
90	136	168	2	MXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
100	13	18	111	MXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
110	2	6		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
120	. 1	4		*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
130				XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
140	2		1	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
150		1	1	
160			1	LEGEND
170	2	1	11_	LEGEND PLANE A-A ACROSS LAMP AXIS
180	2	2	2	PLANE B-B ALONG LAMP AXIS



Footcandle Values for Isofootcandle Lines

Mtg.	Ht
------	----

Α	В	С	D	E	F
8.0	4.00	2.00	1.00	0.50	0.20
5.6	2.78	1.39	0.69	0.35	0.14
3.1	1.56	0.78	0.39	0.20	0.08
2.0	1.00	0.50	0.25	0.13	0.05
	8.0 5.6 3.1	8.0 4.00 5.6 2.78 3.1 1.56	8.0 4.00 2.00 5.6 2.78 1.39 3.1 1.56 0.78	8.0 4.00 2.00 1.00 5.6 2.78 1.39 0.69 3.1 1.56 0.78 0.39	A B C D E 8.0 4.00 2.00 1.00 0.50 5.6 2.78 1.39 0.69 0.35 3.1 1.56 0.78 0.39 0.20 2.0 1.00 0.50 0.25 0.13

*BIAX is a trademark of the General Electric Company.

Fluorescent Luminaires

Luminaire: EVFT 22320 with RAR1 Reflector Lamps: Two F39BX/SPX35/RS Lumen Rating: 2900 Lumens/Lamp

Effective Floor Cavity Reflectance 209	
	/_

% Reflectance	-					R	oom Cavi	ty Ratio				
Eff. Ceil.	Wall	0	1	2	3	4	5	6	7	8	9	10
	70	.51	.46	.41	.38	.34	.31	.29	.26	.24	.22	.21
	50	.51	.44	.38	.33	.29	.25	.23	.20	.18	.16	.15
30	30	.51	.41	.35	.29	.25	.21	.19	.16	.14	.13	.11
	10	.51	.40	.32	.26	.22	.18	.16	.14	.12	.10	.09
	70	.49	.45	.40	.37	.33	.30	.28	.26	.24	.22	.20
70	50	.49	.43	.37	.32	.28	.25	.22	.20	.18	.16	.14
70	30	.49	.41	.34	.29	.25	.21	.18	.16	.14	.12	.11
	10	.49	.39	.31	.26	.22	.18	.16	.14	.12	.10	.09
	50	.47	.41	.35	.31	.27	.24	.21	.19	.17	.15	.14
50	30	.47	.39	.33	.28	.24	.21	.18	.16	.14	.12	.11
	10	.47	.38	.31	.26	.22	.18	.16	.13	.12	.10	.09
	50	.45	.39	.34	.30	.26	.23	.21	.19	.17	.15	.14
30	30	.45	.38	.32	.27	.24	.20	.18	.16	.14	.12	.11
	10	.45	.37	.30	.25	.21	.18	.15	.13	.11	.10	.09
	50	.43	.37	.33	.29	.25	.22	.20	.18	.16	.14	.13
10	30	.43	.36	.31	.27	.23	.20	.17	.15	.13	.12	.10
	10	.43	.35	.29	.25	.21	.18	.15	.13	.11	.10	.08
)	0	.43	.35	.28	.24	.20	.17	.14	.12	.10	.09	.08

DETERMINED IN ACCORDANCE WITH CURRENT IES PUBLISHED PROCEDURES

Luminaire: EVFT 24320 with RAR1 & RAL1 Reflectors

Lamps: Four F39BX/SPX35/RS Lumen Rating: 2900 Lumens/Lamp

Effective	Floor	Cavity	Reflectance	20%

% Reflectance	-					R	oom Cavi	ty Ratio				
Eff. Ceil.	Wall	0	1	2	3	4	5	6	7	8	9	10
	70	48	.44	.40	.37	.33	.30	.28	.26	.24	.22	.20
00	50	.48	.42	.37	.32	.29	.25	.22	.20	.18	.16	.15
80	30	.48	.40	.34	.29	.25	.21	.19	.16	.14	.13	.11
	10	.48	.39	.31	.26	.22	.19	.16	.14	.12	.10	.09
	70	.47	.43	.39	.36	.33	.29	.27	.25	.23	.21	.20
70	50	.47	.41	.36	.32	.28	.25	.22	.20	.18	.16	.14
70	30	.47	.40	.33	.29	.25	.21	.18	.16	.14	.12	.11
	10	.47	.38	.31	.26	.22	.18	.16	.14	.12	.10	.09
	50	.45	.39	.34	.30	.27	.24	.21	.19	.17	.15	.14
50	30	.45	.38	.32	.28	.24	.21	.18	.16	.14	.12	.11
	10	.45	.37	.30	.26	.22	.18	.16	.14	.12	.10	.09
	50	.43	.38	.33	.29	.26	.23	.20	.18	.17	.15	.14
30	30	.43	.37	.31	.27	.23	.20	.18	.16	.14	.12	.11
	10	.43	.36	.30	.25	.21	.18	.16	.13	.12	.10	.09
	50	.41	.36	.32	.28	.25	.22	.20	.18	.16	.14	.13
10	30	.41	.35	.30	.26	.23	.20	.17	.15	.13	.12	.11
	10	.41	.35	.29	.25	.21	.18	.15	.13	.12	.10	.09
0	0	.41	.34	.28	.24	.20	.17	.15	.13	.11	.09	.08

DETERMINED IN ACCORDANCE WITH CURRENT IES PUBLISHED PROCEDURES

Applications:

The NFL Light Luminaires are used:

- In hazardous locations where dust, dirt, combustible vapors, smoke, fumes, moisture, corrosive, and wet conditions are present
- Where lamps may be broken due to physical abuse or movable equipment, such as in manufacturing areas or warehouses
- Where cleanliness and sanitation are prime factors such as in dairies, canneries, food processing plants, bottling plants, and laboratories
- In dock areas for protection against salt spray
- In areas where low mounting height and the even light distribution associated with a line type light source are required

Key Features:

- UL, cUL Listed for Class I, Division 2, Groups A, B, C, D areas with ambient suitability of 40°C (104°F) and 55°C (131°F) ambient suitability
- NEMA 4X with Myers Hubs and threaded metal plug (furnished)
- Non-metallic construction enclosure is corrosion-resistant
- Continuous form-in-place gasket ensures dust-tight, moisture-tight, and wet locations integrity
- Molded-in-place mounting studs eliminate the need of bracket gaskets
- Standard construction includes:

 S.S. mounting brackets
 Electronic ballast
 Cold weather ballast (4' F32 T8)
- S.S. mounting bracket combination ceiling and chain
- S.S. mounting brackets provide superior corrosion resistance
- Electronic ballast for energy efficiency
- Cold Weather Ballast (4' F32 T8)
- Two ½" conduit Myers Hubs for end and feed through wiring simplify installation and wiring
- Full metal fixture interior provides improved photometrics as well as access to and concealment of ballast and wiring
- Provisions (drill mark) on 4 ft. unit to field drill for pendant mounting for application and installation flexibility

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, Group IIC
- UL Listed 844
- cUL
- Wet locations
- 4X



Standard Materials:

- Housing non-metallic, one piece fiberglass-reinforced polyester
- Latches Celcon[™] acetal plastic
- · Lens acrylic plastic
- Gaskets seamless thermoset polyurethane
- Mounting Bracket stainless steel

Celecon™ is a trade name of Hoechst Celanese.

Standard Finishes:

- Fiberglass housing white
- Acrylic plastic lens crepe pattern

Options: Description

•	Fused (not suitable for	
	marine applications)	S658
•	Factory assembled with	
	lamps installed	FA
•	Battery back-up	
	emergency ballast† (NFL	
	2140 and NFL 4232 only)	S799*
•	Increased impact-resistant	
	lens (acrylic crepe pattern)	DR1295046*
•	Stainless steel latches	S863*
•	Tamperproof latches	S861*

†For non-hazardous locations. *UNV voltages: 120, 208, 230, 240, 277, 50–60 Hz.

Ratings (Electrical/Size):

Sources/Wattage: luminaires are for use with the following lamps

- NFI 2140
 - one 40 W long twin tube
- NFL4232
- two 32W T8 lamps
- NFL4240 two 34W "F40 Style" T12 lamps

Voltages

Suffix

- 120V 60Hz
- 120 277V, 50 60 Hz
- 347V 60 Hz

Conduit Entries

 Two ½" inch Myers hubs, one on each end

Temperature Performance Data:

Ambient temperature range suitability:

Ordering Information:

Luminaire				
Cat. #	Size/# of Lamp(s)	Wattage/ Lamp type	Voltage/Hz	
NFL2140/UNV		40W T5 compact	120 / 60	
NFL2140/347	2 ft/ 1-lamp	single ended	120–277/50–60 347 / 60	
NFL4232/UNV	4 ft/2-lamp	32W T8 rapid start	120 / 60 120–277/50–60	
NFL4240/120 NFL4240/277 NFL4240/347	4ft/2-lamp	34W T12 "F40 Style" rapid start	120 / 60 277 / 60 347 / 60	
N2FL4232/UNV N2FL4232/347	4ft/2-lamp	32W T8	347 / 60	

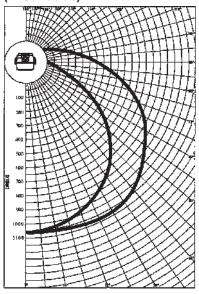
Crouse-Hinds

5L

NFL Series Fluorescent Luminaires

Luminaire: All NFL Luminaires

Candlepower Distribution Curve (in Candelas)



Candelas						
Angle	Along	Across				
0°	1049	1049				
10°	1034	1056				
20°	978	1071				
30°	866	1075				
40°	762	1027				
50°	606	939				
60°	416	838				
70°	228	723				
80°	92	549				
90°	17	363				
100°	19	243				
110°	10	131				
120°	5	46				
130°	4	20				
140°	4	9				
150°	4	3				
160°	4	0				
170°	0	0				
180°	0	0				

Candalaa

Zonal Lumens

Zone	Lumens
0–30	862
0–40	1462
0–60	2778
0–90	4130
0–180	4499

Photometric data, developed using two (2) F32T8/35K 2850 lumen lamps, represents the performance of all NFL series luminaires.

- Coefficient of Utilization These values are for all NFL series luminaires (Do not use multipliers).
- Candlepower Distribution Curve (in candelas) and Zonal Lumens – These values are for all NFL series luminaires, adjusted by conversion factors (multipliers) below.

Example:

- Candlepower at 20° across for NFL4232 using two (2) F32T/35K lamps (5700 lumen total) is 1071 candelas.
- Candlepower at 20° across for NFL2140 using one (1) T5 compact lamp (3100 lumen total) is 1071 x .55 = 589 candelas.

		Lamp		Conversion
Luminaire Series	Qty	Watts	Type (Lumens ea.)	Factor (multipliers)
NFL2140	2	32	F32T8/35K (2850)	1.0
NFL4232	2	34	F40T12/RS (2650)	0.93
NFL4240	1	40	T5 Compact (3150)	0.55

Coefficient of Utilization: For all NFL Series Light Luminaires

Effective Floor Cavity Reflectance 20%

% Reflectance		Room	Room Cavity Ratio								
Eff. Ceiling	Wall	1	2	3	4	5	6	7	8	9	10
	70	.83	.75	.68	.62	.56	.51	.47	.44	.40	.37
00	50	.78	.67	.59	.52	.45	.40	.36	.32	.29	.26
80	30	.74	.61	.52	.44	.38	.33	.29	.25	.22	.20
	10	.71	.56	.46	.39	.32	.28	.24	.20	.17	.15
	70	.80	.72	.65	.59	.54	.49	.46	.42	.39	.36
70	50	.76	.65	.57	.50	.44	.39	.35	.31	.28	.26
70	30	.72	.60	.51	.43	.37	.32	.28	.25	.22	.19
	10	.69	.55	.46	.38	.32	.27	.23	.20	.17	.15
	50	.71	.61	.54	.47	.42	.37	.33	.30	.27	.24
50	30	.68	.57	.48	.42	.35	.31	.27	.24	.21	.19
	10	.66	.53	.44	.37	.31	.26	.23	.20	.17	.15
	50	.67	.58	.51	.45	.39	.35	.32	.28	.25	.23
30	30	.65	.54	.46	.40	.34	.30	.26	.23	.20	.18
	10	.62	.51	.42	.36	.30	.26	.22	.19	.16	.14
	50	.63	.54	.48	.42	.37	.33	.30	.27	.24	.22
10	30	.61	.51	.44	.38	.33	.29	.25	.22	.19	.17
	10	.59	.48	.41	.35	.29	.25	.22	.18	.16	.14
0	0	.57	.46	.39	.33	.27	.23	.20	.17	.14	.12

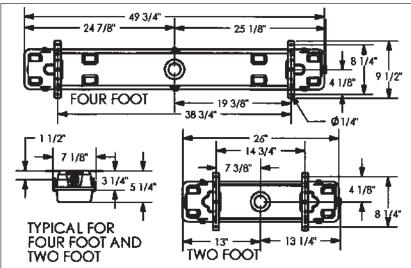
Crouse-Hinds

NFL4232

NFL4240

5L NFL Series Fluorescent Luminaires

Dimensions:



Net Luminaire Weights Luminaire Series Weight (lbs.) NFL2140 9.1

14.3

14.3

C:------

Temperature Performance Data:

Cat. No.	Watts	Ambient Temp. °C	Lamp Type	Supply Wire Temp. °C	Class I, Div. 2 Temp. Rating	Class II Temp. Rating	Presence Class I, Div. 2
NFL4232	32	40	T8	60	T6	-	-
NFL4232	32	55	T8	75	T5	-	-
NFL4240	34	40	T12	60	T6	-	-
NFL4240	34	55	T12	75	T5	-	-
NFL2140	40	40	T12	60	T6	-	-
NFL2140	40	55	T12	75	T5	_	-

5L

eLLK Series™ Fluorescent Non-metallic Luminaires

Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G (Canada) Cl. II, Div. 2, Groups F, G (US)

Cl. III, Simultaneous Presence

Wet Locations 3, 3R, 4, 4X; IP66 ATEX Certified

Applications:

- eLLK Fixtures are used in hazardous areas where moisture or corrosion may be a problem
- Offshore oil platforms, pharmaceuticals, plants, oil refineries
- Where battery back-up is critical
- In non-hazardous and industrial locations

Features:

- IEC: Zone 1 and 2 areas
- NEC/CEC: Zone 1, Division 2 areas Electronic Ballast:
- Operates at voltage range of 110–254 VAC \pm 10%, 50–60 Hz
- Wide ambient temperature range suitability -25°C to +55°C (eLLK92), -25°C to +50°C (eLLK92NIB)
- Lamps operate independently one lamp failure will not affect remaining lamp operation
- Standard bi-pin lamps most common lamp used in office enviroments; energyefficient and cost effective
- Interlocked switch automatically cuts power to both lamps and ballast when the lens is opened
- Removable lens hinged on both sides for easy installation and maintenance
- Dual entries

 extra large wire well eliminates need for separate junction boxes (own with cable gland and conduit hub)
- Corrosion-resistant construction nonmetallic body, gasketed lenses, and lens locking system for an IP66, NEMA 4X rating

Battery Back-up Features:

- Operates one lamp for 1½ hours should power go out
- Microprocessor monitors the charging functions of the battery
- LEDs provide visual indication of battery life.



Certifications and Compliances:

- NEC and CEC:
 - Class I, Division 2, Groups B, C, D Class I, Zone 1, Group IIC Class II, Division 1, Groups E, F, G (Canada) Class II, Division 2, Groups F, G (US
 - Class II, Division 2, Groups F, G (US) Class III, Simultaneous Presence (Cl. I and Cl. II)
- UL Standards:
 1598 Luminaires
- CSA Standards: E79 Series
- ATEX Directive 94/9/EC:
 Ex II 2 G Ex de IIC T4
 Ex II 2 D Ex tD A21 IP66 T80°C
- EC-Type Examination Certificate: BVS 09 ATEX E034
- GOST-R, GOST-K

eLLK Series™ Fluorescent Non-metallic Luminaires

Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, G (Canada) Cl. II, Div. 2, Groups F, G (US) Cl. III, Simultaneous Presence

Wet Locations 3, 3R, 4, 4X; IP66 ATEX Certified

Ordering Ir	nformation:						
Cat. #	Description	Length & Lamp Type	Lamp Watt - 2 Lamp	Rated Voltage	Rated Current	Conduit Hub Size*	Comments
NEC (NOT AT	EX CERTIFIED)		-				
1 2265 875 309	eLLK 92 2217 /U240 1/6 2 NPT ³ / ₄ "	2-foot T8 NEC	17W	120V-240V, 50-60 Hz, 120-230 DC	0.38-0.18A	2 ea ¾" Myers hub	No through- feed
1 2265 875 310	eLLK 92 2217 /U240 1/6 2 NPT 1/2"	2-foot T8 NEC	17W	120V-240V, 50-60 Hz, 120-230 DC	0.38-0.18A	2 ea ½" Myers hub	No through- feed
1 2265 875 311	eLLK 92 2217 /U240 2/6 2 NPT ³ / ₄ "	2-foot T8 NEC	17W	120V-240V, 50-60 Hz, 120-230 DC	0.38-0.18A	4 ea ³ / ₄ " Myers hub	Through- feed
1 2266 875 309	eLLK 92 4232 /U240 1/6 2 NPT ³ / ₄ "	4-foot T8 NEC	32W	120V-240V, 50-60 Hz, 120-230 DC	0.7-0.34A	2 ea ¾" Myers hub	No through- feed
1 2266 875 310	eLLK 92 4232 /U240 1/6 2 NPT 1/2"	4-foot T8 NEC	32W	120V-240V, 50-60 Hz, 120-230 DC	0.7-0.34A	2 ea ½" Myers hub	No through- feed
1 2266 875 311	eLLK 92 4232 /U240 2/6 2 NPT ³ / ₄ "	4-foot T8 NEC	32W	120V-240V, 50-60 Hz, 120-230 DC	0.7-0.34A	4 ea ³ / ₄ " Myers hub	Through- feed
1 2260 879 333	eLLK 92NIB 2217 /U120 2/6 2 NPT ³ / ₄ "	2-foot T8 NEC	17W (with battery)	120V, 50-60 Hz, 120-230 DC	0.38A	4 ea ³ / ₄ " Myers hub	Through- feed
1 2260 879 311	eLLK 92NIB 2217 /U240 2/6 2 NPT ³ / ₄ "	2-foot T8 NEC	17W (with battery)	240V, 50-60 Hz, 120-230 DC	0.18A	4 ea ³ / ₄ " Myers hub	Through- feed
1 2261 879 333	eLLK 92NIB 4232 /U120 2/6 2 NPT 3/4"	4-foot T8 NEC	32W (with battery)	120V, 50-60 Hz, 120-230 DC	0.7A	4 ea 3/4" Myers hub	Through- feed
1 2261 879 311	eLLK 92NIB 4232 /U240 2/6 2 NPT ³ / ₄ "	4-foot T8 NEC	32W (with battery)	240V, 50-60 Hz, 120-230 DC	0.34A	4 ea 3/4" Myers hub	Through- feed
IEC (ATEX C	ERTIFIED)						
1 2265 875 109	eLLK 92 018/18 1/6-1 M	2-foot T8 IEC	18W	120V-240V, 50-60 Hz	0.38-0.18A	2 ea 20mm metric	No through- feed
1 2265 875 111	eLLK 92 018/18 2/6-2 M	2-foot T8 IEC	18W	120V-240V, 50-60 Hz	0.38-0.18A	4 ea 20mm metric	Through- feed
1 2266 875 109	eLLK 92 036/36 1/6-1 M	4-foot T8 IEC	36W	120V-240V, 50-60 Hz	0.7-0.34A	2 ea 20mm metric	No through- feed
1 2266 875 111	eLLK 92 036/36 2/6-2 M	4-foot T8 IEC	36W	120V-240V, 50-60 Hz	0.7-0.34A	4 ea 20mm metric	Through- feed
1 2260 879 109	eLLK 92 018 /18NIB 1/6-1 M	2-foot T8 IEC	18W (with battery)	240V, 50-60 Hz	0.18A	2 ea 20mm metric	No through- feed
1 2260 879 111	eLLK 92 018 /18NIB 2/6-2 M	2-foot T8 IEC	18W (with battery)	240V, 50-60 Hz	0.18A	4 ea 20mm metric	Through- feed
1 2260 879 409	eLLK 92 018 /18NIB 1/6-1 M	2-foot T8 IEC	18W (with battery)	120V, 50-60 Hz	0.38A	2 ea 20mm metric	No through- feed
1 2260 879 411	eLLK 92 018 /18NIB 2/6-2 M	2-foot T8 IEC	18W (with battery)	120V, 50-60 Hz	0.38A	4 ea 20mm metric	Through- feed
1 2261 879 109	eLLK 92 036 /36NIB 1/6-1 M	4-foot T8 IEC	36W (with battery)	240V, 50-60 Hz	0.18A	2 ea 20mm metric	No through- feed
1 2261 879 111	eLLK 92 036 /36NIB 2/6-2 M	4-foot T8 IEC	36W (with battery)	240V, 50-60 Hz	0.18A	4 ea 20mm metric	Through- feed
1 2261 879 409	eLLK 92 036 /36NIB 1/6-1 M	4-foot T8 IEC	36W (with battery)	120V, 50-60 Hz	0.7A	2 ea 20mm metric	No through- feed
1 2261 879 411	eLLK 92 036 /36NIB 2/6-2 M	4-foot T8 IEC	36W (with battery)	120V, 50-60 Hz	0.7A	4 ea 20mm metric	Through- feed

^{*2} hubs provided. May be connected through-feed or tandam. Cable glands ordered separately for 3/4" (remove hubs) or M 25 openings (remove hubs).

Lamp Selection:

NEC LAMP			
Туре	17W	32W	
Phillips GE Osram/Sylvania	F17T8/T1841 F17T8/SPX41 F017/841	F32T8/TL841 F32T8/SPX41 FO32/841	
IEC LAMP			
Туре	18W	36W	
CEAG	3 2475 900 081	3 2475 900 002	

Weights:

Watts	Weight
17W and 18W	4.6 Kg. (10 lb.)
17W and 18W (with battery)	10 Kg. (22 lb.)
32W and 36W	6.7 Kg. (14 lb.)
32W and 36W (with battery)	12 Kg. (26 lb.)

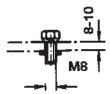
Crouse-Hinds

eLLK Series™ Fluorescent Non-metallic Luminaires

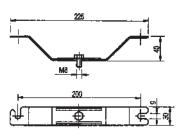
Accessories:



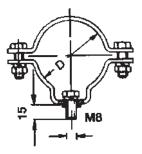
Eyebolt A2



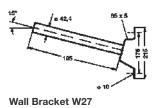
Hexagon Screw S4



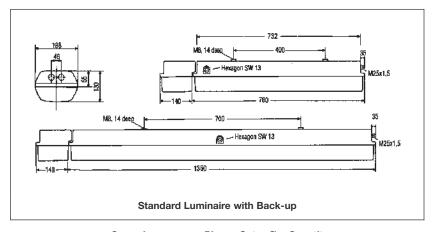
Ceiling Mounting Bracket D92



Pipe Clamp

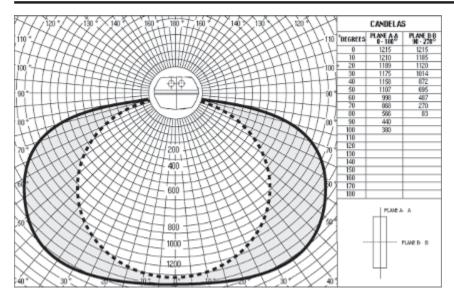


DimensionsIn Millimeters:



Туре	Corrosion Protection	Pipe DIN	Outer Ø D (mm)	Quantity per Luminaire	Cat. #
Eyebolt A2	Galvanized	_	_	2	2 2480 002 000
Hexagon Screw S4	Stainless Steel	_	_	2	2 2480 054 000
Ceiling Mounting Bracket D92	Stainless Steel	_	_	2	2 2480 092 000
Pipe Clamp	R12 Hot Galvanized R14 CrNi R22 Hot Galvanized R32 Hot Galvanized	1 ¹ / ₄ " 1 ¹ / ₂ "	38–42 38–42 47–51 56–60	2 2 2 2	2 2480 462 000 2 2480 464 000 2 2480 472 000 2 2480 482 000
Hexagon Key SW13 eLLK 92	_	_	_	_	3 2485 000 005
Wall Bracket W27	Hot Galvanized	_	42.4	1	2 2483 027 000

5L eLLK Series™ Fluorescent Non-metallic Luminaires



Photometric data developed using two (2) F32T8 3350 lumen lamps. For the 17W eLLK, use a 0.45 multiplier.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

			Roor	n Cavity	/ Ratio						
Eff. Ceil.	Wall	Work	1	2	3	4	5	6	7	8	9
80*	70*	20*	41	49	55	61	65	70	74	77	80
	50*	20*	30	38	44	50	55	62	67	71	75
	30*	20*	23	30	36	43	48	55	61	65	70
	10*	20*	18	25	30	37	42	50	56	61	66
70*	70* 50* 30* 10*	20* 20* 20* 20* 20*	40 29 22 18	47 37 30 24	53 42 35 30	58 49 42 36	62 54 47 42	68 60 54 49	71 65 59 54	74 68 64 59	77 72 68 64
50*	50*	20*	27	35	40	46	50	56	61	64	68
	30*	20*	21	28	34	40	45	51	56	60	64
	10*	20*	17	24	29	35	40	47	52	57	61
30*	50*	20*	26	38	37	43	47	58	57	60	64
	30*	20*	20	27	32	38	43	49	53	57	61
	10*	20*	17	23	28	34	39	45	50	54	58
10*	50*	20*	24	31	35	41	45	50	54	57	60
	30*	20*	20	26	31	36	41	46	51	54	68
	10*	20*	16	22	27	33	37	43	48	52	55
0*	0*	20*	14	20	25	31	35	41	46	49	53

^{*}Percent Reflectance.

nLLK Series Non-metallic Fluorescent Luminaires

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, AEx nA II CI. II, Div. 2, Groups F, G Enclosure Type 4X

Wet Locations UL and cUL Listed ATEX Certified

Eaton's Crouse-Hinds SpecOne™ nLLK Series Fluorescent Luminaire is an ideal source of general illumination indoors or out, in ordinary or hazardous environments. Its heavy duty, non-metallic construction stands up to tough physical and environmental demands, making it an excellent choice where dust, dirt, gas, vapor, smoke, fumes, moisture, corrosive and wet conditions are present. As with all SpecOne products, the nLLK Luminaire meets the standards and codes of regulating agencies throughout the world, which simplifies product specifying for multi-national users.



Applications:

nLLK Series Luminaires are used:

In indoor or outdoor, ordinary or hazardous areas

Where a heavy duty, non-metallic luminaire is required to hold up to tough physical and environmental demands including corrosives, water, dust, and extreme temperatures

- Manufacturing plants
- · Heavy industrial facilities
- · Industrial process facilities
- Refineries
- Chemical
- Petrochemical
- Pharmaceutical
- · Wastewater and sewage treatment

In areas where low mounting height, immediate full illumination, and the even light distribution associated with a line type light source are required

- · Loading docks
- Tunnels
- Stairways

Where wet location or Type 4X protection is required

- Dock areas
- Production platforms

In hose down areas where cleanliness and sanitation are prime factors

- Dairies
- Canneries
- · Food processing plants
- Bottling plants
- Laboratories

Certifications and **Compliances:**

• NEC:

Class I, Division 2, Groups A, B, C, D Class I. Zone 2. AEx nA II Class II, Division 2, Groups F, G Wet Locations UL Listed

• CEC:

Class I, Zone 2, Ex nA II Class I, Division 2, Groups A, B, C, D Class II, Division 1, Groups E, F, G cUL Listed (certified by UL)

Enclosure:

Type 4X

IP65

• UL Standards:

844 Hazardous (Zones Classified) Locations

1598 Luminaires

 CSA Standards: C22.2 No. 9 CAN/CSA-E79-15

• ATEX Directive 94/9/EC

Type of Protection

• EC-Type Examination Certificate BVS 09 ATEX E147

Standard Materials: • One-piece housing - fiberglass-

- reinforced polyester
- Lens polycarbonate
- Gasket silicone

Standard Finishes:

- Fiberglass housing natural (white)
- Lens natural (clear)

Ratings (Electrical/Size):

Sources/Wattages

• Two (2) 17W or two (2) 32W linear fluorescent

Voltages

- 120-277 V, 50-60 Hz
- 347 V, 60 Hz consult factory

Hub Size

- Four 25 mm entries, two on each end, three plugged
- Two Myers STM2 25 mm to 3/4" NPT adapter hubs provided standard for through-feed or tandem wiring

ATEX

Ex II 3G Ex nA de IIC T4 Ex II 3G Ex nA de mb IIC T4 Ex II 3D Ex tD A22 IP66 T80°C

Crouse-Hinds by **F**:**T·N**

IP65, Type 4X heavy duty construction

- Non-metallic body, gasketed lens and unique labyrinth lens locking system
- Dust-tight, water-tight and moisture-tight
- Corrosion and impact-resistant
- Ideal for outdoor applications

Electronic ballast

- Lower ambient temperatures suitability to -18°C
- High-power factor ballast (+90%) allows for more luminaires per circuit

Standard T8 bi-pin lamps

• Most common lamp used; energy-efficient and cost-effective

Removable lens

• Hinged on both sides for easy installation and maintenance

Easy wiring and installation

- Four 25 mm entries; two Myers[™] ³/₄ NPT adapter hubs supplied standard
- Suitable for through-feed or tandem applications
- Extra large wire well eliminates need for separate junction boxes

Worldwide suitability

- NEC/CEC: Class I, Zone 2 and Division 2 areas
- IEC/CENELEC certified luminaires available (consult factory)



Ordering Information:

Cat. #	Description	Length & Lamp Type	Lamp Watt - 2 Lamp	Rated Voltage	Rated Current	Conduit Hub Size	Comments
NEC (NOT AT	EX CERTIFIED)						
1 3465 217 021	nLLK 98 2217 /UNV	2-foot T8	17W	120V-277V, 60 Hz	0.16A	2 ea 3/4" Myers hub	Through-feed
1 3465 217 347	nLLK 98 2217 /347 2/5 2 NPT 3/4" M UL	2-foot T8	17W	347V, 60 Hz	0.16A	2 ea 3/4" Myers hub	Through-feed
1 3465 232 021	nLLK 98 4232 /UNV	4-foot T8	32W	120V-277V, 60 Hz	0.31A	2 ea 3/4" Myers hub	Through-feed
1 3465 232 347	nLLK 98 4232 /347 2/5 2 NPT 3/4" M UL	4-foot T8	32W	347V, 60 Hz	0.31A	2 ea 3/4" Myers hub	Through-feed
IEC (ATEX CE	RTIFIED)						
1 3465 218 011	nLLK 08 018/18	2-foot T8	18W	220V-240V, 50-60 Hz	0.16A	2 ea 25mm metric	Through-feed
1 3465 218 021	nLLK 08 018/18	2-foot T8	18W	220V-240V, 50-60 Hz	0.16A	2 ea 20mm metric	Through-feed
1 3465 236 011	nLLK 08 036/36	4-foot T8	36W	220V-240V, 50-60 Hz	0.31A	2 ea 25mm metric	Through-feed
1 3465 236 021	nLLK 08 036/36	4-foot T8	36W	220V-240V, 50-60 Hz	0.31A	2 ea 20mm metric	Through-feed

Accessories:

Description

SW13 hexagon key (for mainter Myers™ 25mm to ¾" NPT adapt	3 2485 000 005 STM 2				
Туре	Corrosion Protection	Pipe DIN	Outer Ø D (mm)	Quantity per Luminaire	Cat. #
Eyebolt A2	Galvanized	_	_	2	2 2480 002 000
Hexagon Screw S4	Stainless Steel	_	_	2	2 2480 054 000
Ceiling Mounting Bracket D92	Stainless Steel	_	_	2	2 2480 092 000
Pipe Clamp	R12 Hot Galvanized R14 CrNi R22 Hot Galvanized R32 Hot Galvanized	1½" 1½" 1½" 2"	38-42 38-42 47-51 56-60	2 2 2 2	2 2480 462 000 2 2480 464 000 2 2480 472 000 2 2480 482 000
Hexagon Key SW13 eLLK 92	_	_	_	_	3 2485 000 005
Wall Bracket W27	Hot Galvanized	_	42.4	1	2 2483 027 000

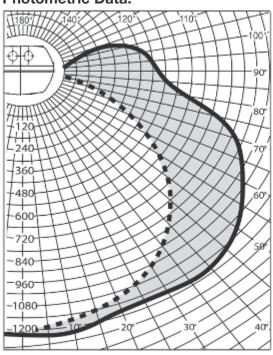
Cat. #

nLLK Series Non-metallic Fluorescent Luminaires

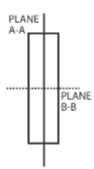
Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, AEx nA II Cl. II, Div. 2, Groups F, G Enclosure Type 4X

Wet Locations UL and cUL Listed

Photometric Data:



CANDELAS							
DEGREES	PLANE A-A 0 - 180°	PLANE B-B 90 - 270*					
0	1215	1215					
10	1210	1185					
20	1189	1120					
30	1175	1014					
40	1158	872					
50	1107	695					
60	998	487					
70	868	270					
80	566	83					
90	440						
100	380						
110							
120							
130							
140							
150							
160							
170							
180							



Accessories:



Eyebolt A2

Temperature Performance:

Minimum Starting Temperature: -18°C

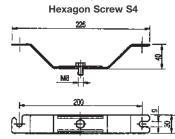
Watts	Ambient	Class I, Div. 2 (Class I, Zone 2)	Class II, Div. 1 (CEC) Class II, Div. 2 (NEC)	Supply Wire Temp.°C
Two 17W T8 lamps	40°C	T4	T6	60
Two 32W T8 lamps	40°C	T4	T6	60

Maintenance and Relamping:

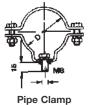
(eLLK Series Div. 1/Zone 1 luminaire is shown. Maintenance procedures are the same for the nLLK.)

- 1.One quarter turn with the SW13 hexagon key or a 5/16" (M8) Allen hex head wrench releases multiple locking
- 2.Lamps can be stored in open lens,
- freeing up hands for easy relamping.
 3.Replace the bi-pin lamp lock with one quarter turn of the wrench for an IP65, Type 4X seal.





Ceiling Mounting Bracket D92

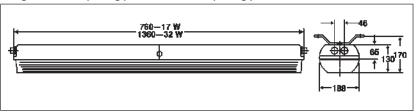




Wall Bracket W27

Dimensions (mm) and Weight:

Weight: 8.8 lbs. (4.0 kg.) - 18W 13.2 lbs. (6.0 kg.) - 36W



CI. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, Group IIC

Cl. II, Div. 1, Groups F, G

Cl. III & Simultaneous Presence

Wet Locations NEMA 3, 3R

Applications:

FVN Luminaires are ideal for use:

- In areas made hazardous by the abnormal conditions resulting in the presence of flammable vapors or gases and combustible dusts as defined by the National Electrical Code®
- Where broken lamps would damage machinery or processes, or harm people working in the area
- In areas where stringent sanitation requirements exist

Features:

- One-piece seamless sheet steel housing with welded end caps keeps dirt, dust and moisture away from ballast and lamps; easy to clean
- A silicone rubber gasket provides a dust-tight seal between the lens/frame assembly and housing
- Lens/frame assembly is hinged and wireway cover is held by safety chain for ease of lamp replacement and maintenance
- Polyester powder coat finish provides high reflectance and corrosion resistance for long life and dependable service
- • Two $^{1}\!/_{2}$ " NPT pendant hubs and two $^{1}\!/_{2}$ " NPT thru-feed end hubs are standard
- Electronic ballast is standard on 32 and 54 watt luminaires (/UNV only)

FVN Fluorescent Luminaires with T5 HO lamps offer:

- High lumen output per watt provides energy savings versus other higher wattage fluorescent luminaires with similar lumen output
- Longer lamp life and good lumen maintenance reduced maintenance and lamp replacement costs

Certifications and Compliances:

• NEC and CEC:

Class I, Division 2, Groups A, B, C, D

Class I, Zone 2, Group IIC

Class II, Division 1, Groups F, G

Class III

Simultaneous Presence (Cl. I and Cl. II)

• UL Standards:

844 Hazardous (Classified) Areas

1598 Luminaires

CSA Standards:

C22.2 No. 137



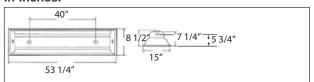
Standard Materials:

- Luminaire housing 20-gauge seamless sheet steel
- Lens/frame assembly stainless steel
- Glass 3/16" tempered
- Suspension flanges seamless sheet steel
- Gaskets silicone
- Lampholders white thermoset plastic
- Clamps stainless steel

Standard Finishes:

- Reflector housings corrosion-resistant white polyester powder coat
- Lens/frame natural

Dimensions In Inches:



Ordering Information (Lamps not supplied):

Lamp Watts	Line Voltage/Hertz	Lamp Type	Hub Size	2-Lamp Cat. #	3-Lamp Cat. #		
32	120-277/50-60	T8	½ NPT	FVN4232TG/UNV	FVN4332TG/UNV		
32	347 / 60	T8	1/2 NPT	FVN4232TG/347	FVN4332TG/347		
40	120 / 50–60	T12	1/2 NPT	FVN4240TG/120	FVN4340TG/120		
40	277 / 60	T12	1/2 NPT	FVN4240TG/277	FVN4340TG/277		
40	347 / 60	T12	1/2 NPT	FVN4240TG/347	FVN4340TG/347		
60	120 / 60	T12HO	1/2 NPT	FVN4260TG/120	_		
60	277 / 60	T12HO	1/2 NPT	FVN4260TG/277	_		
60	347 / 60	T12HO	1/2 NPT	FVN4260TG/347	_		
60	220 / 50	T12HO	1/2 NPT	FVN4260TG/200 50	_		
FVN Fluorescent Luminaires with T5 HO Lamps (Lamps not supplied)							
54	120-277/50-60	T5HO	1/2 NPT	FVN4254TG/UNV	_		
54	347 / 60	T5HO	1/2 NPT	FVN4254TG/347	_		

FVN Series Fluorescent Luminaires

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, Group IIC

Cl. II, Div. 1, Groups F, G

Cl. III & Simultaneous Presence

Wet Locations NEMA 3, 3R

Options:

The following special options are available from the factory by adding suffix to luminaire Cat. No.:

Description	Suffix
 Low temperature electromagnetic ballast, 40W rated 0°F (-18°C), 60W rated -20°F (-29°C). 	BY
45° angle brackets (field installed)	AG
Adjustable angle brackets (field installed)	KH
	CX
Individually fused ballast (internal)	FB
 Emergency lighting battery unit (Class I, Division 2 only). Also available for use with T5 lamps. Supplied with charging indicator 	
light and instructions for use with a remote push-to-test station	S799*
	Low temperature electromagnetic ballast, 40W rated 0°F (-18°C), 60W rated -20°F (-29°C) 45° angle brackets (field installed)

^{*}If push-to-test operator installed in the luminaire is required, consult factory.

Temperature Performance Data:

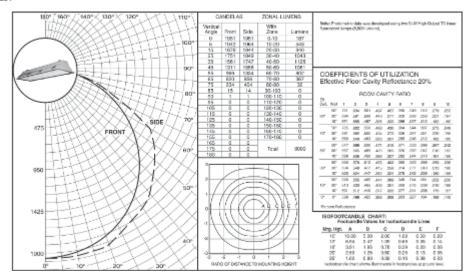
(Based on 40°C ambient)

	Cl. I, Div	v. 2 & Zone 2	Class II S		Simultane	Simultaneous Presence		
Lamp	2-Lamp	3-Lamp	2-Lamp	3-Lamp	2-Lamp	3-Lamp	SupplyWire	
32W	T5	T5	T6	T6	T4	T4	60°C	
40W	T5	T5	T6	T6	T4	T4	60°C	
54W	T3C	_	T6	_	T3C/T6	_	75°C	
60W	T4	_	T6	_	T4	_	90°C	

Photometric Data:

Luminaire with two 54W High Output T5 Linear Fluorescent Lamps FVN4254

Luminaire with two 54W High Output T5 Linear Fluorescent Lamps FVN4254



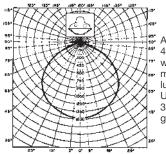
FVN .ies photometric files for use with our Luxicon® Lighting Layout Software are available from our website.

5L **FVN Series Fluorescent Luminaires**

Luminaire: FVN with 2-40W lamps (tempered lens)

Lamp: Zonal Degrees: 2-40/T-12 0-30 0-40 0-60 0-90 Zonal Lumens: 1182 1971 3555 4284

Total Bare Lamp Lumens: 6300



All data provided is for 2-lamp 40W RS cool white luminaires with tempered glass. Use 1.37 multiplier for 2-lamp 60W luminaires with tempered glass.
Use .92 multiplier for 2-lamp 32W luminaires with tempered glass.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

Ellective Floc	Effective Floor Cavity Reflectance 20%						
% Reflectan	ce	Room	Cavity F	Ratio			
Eff. Ceil.	Wall	1	2	3	4	5	
	50	.721	.643	.575	.513	.461	
80	30	.695	.603	.527	.459	.404	
	10	.673	.569	.489	.418	.362	
	50	.706	.631	.566	.505	.452	
70	30	.683	.594	.520	.455	.399	
	10	.661	.564	.485	.415	.359	
	50	.677	.607	.547	.488	.439	
50	30	.657	.577	.508	.444	.392	
	10	.641	.549	.476	.410	.357	
	50	.650	.586	.528	.473	.426	
30	30	.636	.561	.496	.435	.384	
	10	.621	.538	.468	.405	.353	
	50	.627	.568	.512	.459	.414	
10	30	.614	.544	.484	.426	.378	
	10	.602	.526	.460	.399	.349	
0	0	.589	.512	.447	.385	.336	
% Reflectan	се	Room	Room Cavity Ratio				
Eff. Ceil.	Wall	6	7	8	9	10	

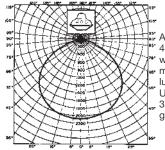
0	0	.589	.512	.447	.385	.336			
% Reflectar	nce	Room	Room Cavity Ratio						
Eff. Ceil.	Wall	6	7	8	9	10			
80	50 30 10	.416 .359 .319	.375 .319 .281	.338 .283 .244	.309 .254 .217	.269 .215 .180			
70	50 30 10	.409 .356 .316	.370 .315 .278	.333 .281 .244	.305 .252 .217	.265 .215 .180			
50	50 30 10	.397 .350 .314	.359 .309 .276	.324 .277 .242	.297 .249 .215	.259 .211 .179			
30	50 30 10	.386 .344 .311	.348 .306 .273	.316 .272 .240	.289 .244 .214	.253 .208 .177	_		
10	50 30 10	.376 .338 .308	.341 .301 .271	.308 .268 .239	.282 .242 .212	.247 .205 .175	_		
0	0	.295	.258	.226	.200	.164			

Luminaire: FVN with 3-40W lamps (tempered lens)

Lamp: Zonal Degrees: 3-40/T-12

0-30 0-40 0-60 0-90 Zonal Lumens: 1695 2834 5099 6079

Total Bare Lamp Lumens: 9450



All data provided is for 2-lamp 40W RS cool white luminaires with tempered glass. Use 1.37 multiplier for 2-lamp 60W luminaires with tempered glass. Use .92 multiplier for 2-lamp 32W luminaires with tempered glass.

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance			Room Cavity Ratio					
Wall	1	2	3	4	5			
50 30	.682 .658	.610 .572	.546 .501	.488 .438	.439 .385			
10	.637	.540	.466	.399	.346			
50	.668	.599	.538	.480	.430 .381			
10	.625	.535	.462	.396	.343			
50	.640	.576	.520	.464	.418			
10	.606	.547	.433	.391	.374 .341			
50	.615	.556	.502	.450	.406			
30 10	.601 .587	.532 .511	.472 .446	.415 .386	.367 .337			
50	.594	.537	.487	.437	.394			
30 10	.581 .570	.517 .499	.461 .439	.406 .381	.361 .333			
0	.557	.487	.426	.368	.321			
ice	Room Cavity Ratio							
					10			
					.256 .205			
10	.305	.268	.234	.207	.172			
10 50	.305	.268	.234	.207	.172			
10	.305	.268	.234	.207	.172			
50 30 10 50	.305 .390 .340 .302	.268 .352 .301 .266	.234 .317 .268 .233 .309	.207 .290 .240 .207	.172 .252 .205 .172 .247			
10 50 30 10	.305 .390 .340 .302	.268 .352 .301 .266	.234 .317 .268 .233	.207 .290 .240 .207	.172 .252 .205 .172			
50 30 10 50 30 10 50 30	.305 .390 .340 .302 .378 .334 .300	.268 .352 .301 .266 .342 .295 .264	.234 .317 .268 .233 .309 .264 .231	.207 .290 .240 .207 .282 .237 .206	.172 .252 .205 .172 .247 .201 .171			
50 30 10 50 30 10	.305 .390 .340 .302 .378 .334 .300	.268 .352 .301 .266 .342 .295 .264	.234 .317 .268 .233 .309 .264 .231	.207 .290 .240 .207 .282 .237 .206	.172 .252 .205 .172 .247 .201 .171			
50 30 10 50 30 10 50 30 10 50 30 10	.305 .390 .340 .302 .378 .334 .300 .368 .328 .298	.268 .352 .301 .266 .342 .295 .264 .332 .292 .261	.234 .317 .268 .233 .309 .264 .231 .301 .259 .230	.207 .290 .240 .207 .282 .237 .206 .276 .233 .204	.172 .252 .205 .172 .247 .201 .171 .241 .199 .169			
50 30 10 50 30 10 50 30 10 50 30 10	.305 .390 .340 .302 .378 .334 .300 .368 .328 .298	.268 .352 .301 .266 .342 .295 .264 .332 .292 .261	.234 .317 .268 .233 .309 .264 .231 .301 .259 .230	.207 .290 .240 .207 .282 .237 .206 .276 .233 .204	.172 .252 .205 .172 .247 .201 .171 .241 .199 .169			
	50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10 50 30 50 50 50 50 50 50 50 50 50 50 50 50 50	Wall 1 50 .682 30 .658 10 .637 50 .668 30 .646 10 .625 50 .640 30 .622 10 .606 50 .615 30 .601 10 .587 50 .594 30 .581 10 .557 Ice Room 6 50 .396	Wall 1 2 50 .682 .610 30 .658 .572 10 .637 .540 50 .668 .599 30 .646 .563 10 .625 .535 50 .640 .576 30 .622 .547 10 .606 .521 50 .615 .556 30 .601 .532 10 .587 .511 50 .594 .537 30 .581 .517 10 .570 .499 0 .557 .487 Room Cavity F 6 7 50 .396 .357	Wall 1 2 3 50 .682 .610 .546 30 .658 .572 .501 10 .637 .540 .466 50 .668 .599 .538 30 .646 .563 .495 10 .625 .535 .462 50 .640 .576 .520 30 .622 .547 .454 10 .606 .521 .433 50 .615 .556 .502 30 .601 .532 .472 10 .587 .511 .446 50 .594 .537 .487 30 .581 .517 .461 10 .570 .499 .439 0 .557 .487 .426 Recential Rece	Wall 1 2 3 4 50 .682 .610 .546 .488 30 .658 .572 .501 .438 10 .637 .540 .466 .399 50 .668 .599 .538 .480 30 .646 .563 .495 .433 10 .625 .535 .462 .396 50 .640 .576 .520 .464 30 .622 .547 .454 .423 10 .606 .521 .433 .391 50 .615 .556 .502 .450 30 .601 .532 .472 .415 10 .587 .511 .446 .386 50 .594 .537 .487 .437 30 .581 .517 .461 .406 10 .570 .499 .439 .381 0			

eLLB20 Series

Recessed Mount Fluorescent Luminaires

Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 2, Groups F, G Cl. I, Zone 1, Group IIC Cl. II, Div. 1, Groups E, F, ATEX Certified Wet Locations

Cl. II, Div. 2, Groups F, G Cl. II, Div. 1, Groups E, F, G (Canada) Wet Locations Enclosure Type 4X and IP66

Applications:

eLLB Series Luminaires are used:

- · For flush or surface ceiling mounting
- In clean room areas where it is important to have smooth, flush surfaces
- Where extreme cleanliness is required as in pharmaceutical, chemical, and electronics manufacturing facilities, as well as in paint shops and spray booths
- For tough environmental conditions involving corrosives, water, dust, and extreme temperatures
- In areas that require lamps to reach full illumination immediately
- Indoor and outdoor ordinary or hazardous areas
- For wet locations and areas with hose down / wash down requirements

Features and Benefits:

- One-piece welded housing with fitted cover frame; the cover frame is an integral part of the housing to seal out dust and moisture
- Adjustable mounting clamps: Permanently attached and adjustable through the cover frame for easy installation
 - Allow recess mounting in ceilings from 25mm to 100mm (1" to 4" approx.) thick for maximum mounting flexibility
- Support lugs (M8 x .6) to secure the luminaire to ceiling structural support members for safety
- Frameless tempered glass lens: 6mm (1/4") thick for added safety Interior hinge for maximum dust shedding
 - Fitted with captive screws for ease of lamp replacement and maintenance
- Isolating switch turns off power to the ballast and lamps when the lens is opened for added safety
- 4 entries (2 on each end) supplied with (2) ³/₄" NPT adapter hubs and extra large wire well for feed-through and tandem applications without the need for separate junction boxes
- Electronic ballast:
- High power factor (95%) for energy efficiency, more luminaires per circuit and supply voltage flexibility

 Features 2 channel circuitry for safety-if one lamp fails, the 2nd lamp remains in operation
- Uses T8 linear fluorescent lamps for high efficiency and reduced operating costs
- 5 wire terminal block and through wiring are standard for quick and easy balancing of lighting loads on 3-phase systems

Certifications and Compliances:

• NEC:

Class I, Division 2, Groups A, B, C, D Class I, Zone 1, AEx ed IIC Class II, Division 2, Groups F, G UL Listed

CEC:

Class I, Division 2, Groups A, B, C, D Class I, Zone 1, Ex eds IIC Class II, Division 1, Groups E, F, G cUL Listed

Enclosure:
 Type 4X

IP66

 UL Standards: 844 Hazardous (Classified) Locations 1598 Luminaires

CSA Standards:

C22.2 No. 9

CAN/CSA-E60079-0:02

CAN/CSA-E60079-1:02

CAN/CSA-E60079-7

CAN/CSA-E61241-1-1:02

ATEX

• EC-Type Examination DMT 02 ATEX E 069

Certificate

Standard Materials:

- One-piece welded housing and cover frame - sheet steel or stainless steel
- Lens 6mm (1/4") thick tempered glass
- Gaskets silicone
- External hardware stainless steel

Standard Finishes:

- Sheet steel white epoxy coat
- Lens clear
- Stainless steel natural





Adjustable Mounting Clamps



Hinged Glass Lens

L GLLDZU SGIIG

Recessed Mount
Fluorescent Luminaires

Cl. II, Div. 2, Groups F, G Cl. II, Div. 1, Groups E, F, G (Canada) Wet Locations Enclosure Type 4X and IP66

Ratings (Electrical / Size):

Sources/Wattages

• Two 32W or 17W T8 Linear Fluorescent

Voltages

- 120-240V, 50-60 Hz
- 110-230VDC

Hub Size

- Four 25mm entries, 2 on each end, 3 plugged
- Two ³/₄" NPT adapter hubs provided standard, for feed-through or tandem wiring

Terminals

- 5 wire terminal block, one on each end (L1, L2, L3, N, Ground)
- Two 6mm² (#10 AWG) maximum per terminal

Temperature Performance Data: Minimum Starting Temperature: -20°C

Watts	Ambient Temp.	Cl. I, Div. 2 Cl. I, Zone 1 & 2	Class II	Wire Temp.
Two 17W T8 lamps	50°C	T4	T6	60°C
Two 32W T8 lamps	50°C	T4	T6	

Accessories:

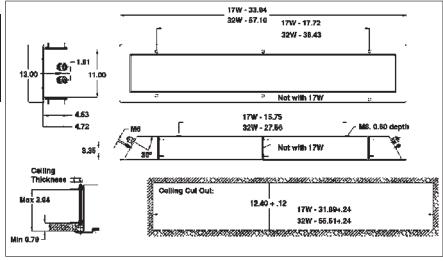
7 10 0 0 0 0 1 1 0 0 1	
Description	Cat. #
³ / ₄ " NPT adapter hub	STM 2
Mounting Accessories:	
Eye Bolt for Support Lugs	2 2480 002 000
 Hexagon Screw for Support Lugs 	2 2480 054 000

Ordering Information:

				C	at. #
Hub Size	Wattage/Lamp	Voltage/Hz	Operating Current	Epoxy Coated Steel Enclosure	Stainless Steel Enclosure
3/4" NPT	Two 17 Watt T8 Rapid Start	120–240V, 50–60 Hz 110–230 VDC	.18A	ELLB202217/U240	ELLB202217SS/U240
3/4" NPT	Two 32 Watt T8 Rapid Start	120–240V, 50–60 Hz 110–230 VDC	.34A	ELLB204232/U240	ELLB204232SS/U240

IEC / CENELEC certified luminaries are available. Consult factory.

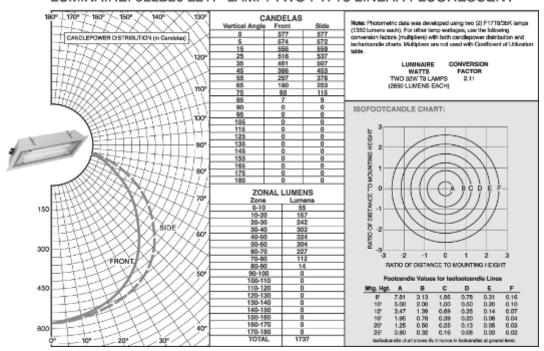
Dimensions (Inches) and Weights:



Item	Weight
eLLB20 2217	33 lbs.
eLLB20 4232	48 lbs.

Photometric Data:

LUMINAIRE: eLLB20 2217 LAMP: TWO F17T8 LINEAR FLUORESCENT



Coefficients Of Utilization – Zonal Cavity Method Effective Floor Cavity Reflectance 20%

		Room Cavity Ratio									
			noom davity natio								
Eff. Ceil.	Wall	1	2	3	4	5	6	7	8	9	10
	50*	0.679	0.597	0.528	0.468	0.412	0.368	0.329	0.294	0.263	0.239
80*	30*	0.654	0.556	0.478	0.414	0.355	0.310	0.272	0.239	0.209	0.186
	10*	0.631	0.522	0.439	0.372	0.313	0.269	0.233	0.200	0.172	0.151
	50*	0.664	0.585	0.518	0.459	0.405	0.632	0.324	0.290	0.259	0.235
70*	30*	0.641	0.585	0.518	0.459	0.405	0.832	0.324	0.290	0.259	0.235
70"	10*	0.621	0.547	0.472	0.369	0.311	0.268	0.232	0.200	0.207	0.163
		1	1								
	50*	0.637	0.562	0.499	0.443	0.391	0.350	0.314	0.281	0.252	0.229
50*	30*	0.618	0.531	0.460	0.399	0.344	0.302	0.265	0.233	0.204	0.182
	10*	0.601	0.504	0.427	0.364	0.308	0.266	0.230	0.198	0.171	0.150
	50*	0.612	0.542	0.482	0.429	0.379	0.339	0.305	0.273	0.245	0.223
30*	30*	0.597	0.515	0.448	0.390	0.337	0.296	0.261	0.229	0.201	0.180
	10*	0.583	0.492	0.420	0.360	0.304	0.263	0.228	0.197	0.170	0.149
	50*	0.589	0.522	0.465	0.415	0.367	0.329	0.296	0.265	0.238	0.217
10*	30*	0.577	0.501	0.437	0.382	0.330	0.291	0.257	0.226	0.198	0.177
	10*	0.566	0.481	0.413	0.355	0.301	0.261	0.257	0.196	0.169	0.149
0*	0*	0.553	0.468	0.400	0.341	0.288	0.248	0.214	0.183	0.156	0.137

*Percent Reflectance.

뚼

- EVF Luminaires are used in areas where hazardous fumes, gases, or dusts are present
- EVF Luminaires with S718 option are designed specifically for use inside paint spray booths where hazardous fumes, gases, and paint residue are present; this includes powder paint process areas
- EVF Luminaires with S718 option are also suitable for use in wet locations



3-lamp



2-lamp with angle reflector

Features:

All EVF Luminaires:

- Provide cool, even light with natural color rendition
- Reduce relamping schedule (long lamp life)
- Continuous and uniform illumination made possible by mounting end to end (no space needed between luminaires for relamping)
- No special tools required for relamping; threaded lamp tube cover provides quick and easy access for relamping
- Threaded joints on lamp tube and wiring chamber covers permit easy access for lower maintenance costs
- Reflectors can be removed or replaced with only a screwdriver
- Easy to install; factory-sealed and wired luminaire facilitates installation
- Standard electronic ballast for 32 watt and 40 watt rapid start luminaires
- Standard energy-efficient ballast for 40 watt slimline, 60 watt and 110 watt luminaires
- Low temperature ballast is supplied as standard on 32 watt T8 (0°F), 40 watt slimline (0°F), 60 watt and 110 watt luminaires (-20°F)
- All exposed hardware is stainless steel for maximum protection against corrosion, and for longer luminaire life
- Copper-free aluminum construction throughout means lighter luminaire weight, easier installation, and excellent corrosion resistance
- All exterior materials are non-sparking
- Type P ballasts furnished in compliance with NEC
- Heavy-duty glass lamp tubes provide maximum strength and impact resistance to protect lamps

EVF Luminaires with S718 Option:

- · All joints sealed
- Inside paint booth mounting capabilities provide greater flexibility in luminaire placement, avoids necessity of complicated design and installation work, and improves task lighting control
- Smooth, simple design makes it easy to remove any accumulated deposits of paint residue

Ordering Information:

Furnished For	Hub	Line Volts	1-Lamp	2-Lamp	3-Lamp	4-Lamp
Use with	Size	60 Hz	Cat. #	Cat. #	Cat. #	Cat. #
32 watt, T-8 medium	3/ ₄ "	120–277	EVF21029/UNV	EVF22029/UNV	EVF23029/UNV	EVF24029/UNV
Bi-pin 265MA lamps	3/ ₄ "	347	EVF21029/347	EVF22029/347	EVF23029/347	EVF24029/347
40 watt, T-12 medium	3/ ₄ "	110–125	EVF21082	EVF22082	EVF23082	EVF24082
Bi-pin rapid start	3/ ₄ "	277	EVF21087	EVF22087	EVF23087	EVF24087
430MA lamps†	3/ ₄ "	347	EVF21089/347	EVF22089/347	EVF23089/347	EVF24089/347
40 watt, T-12 single	3/ ₄ "	110–125	EVF21032	EVF22032	EVF23032	EVF24032
pin, slimline	3/ ₄ "	277	EVF21037	EVF22037	EVF23037	EVF24037
425MA lamps	3/ ₄ "	347	EVF21039/347	EVF22039/347	EVF23039/347	EVF24039/347
60 watt, T-12	3/ ₄ "	110–125	EVF21062	EVF22062	EVF23062	EVF24062
recessed contact,	3/ ₄ "	277	EVF21067	EVF22067	EVF23067	EVF24067
800MA lamps†	3/ ₄ "	347	EVF21069/347	EVF22069/347	EVF23069/347	EVF24069/347
110 watt, T-12	3/4"	110–125	EVF21072	EVF22072	EVF23072	EVF24072
recessed contact,	3/4"	277	EVF21077	EVF22077	EVF23077	EVF24077
1500MA lamps†	3/4"	347	EVF21079/347	EVF22079/347	EVF23079/347	EVF24079/347

†50 Hz not available

Certifications and Compliances:

NEC and CEC:
 Class I, Division 1, Groups C, D
 Class I, Zone 1, Group IIB
 Class II, Groups E, F, G
 Class III
 Simultaneous Presence (Cl. I and Cl. II)
 Paint Spray (S718)

- UL Standards:

 844 Hazardous (Classified)
 Locations
 1598 Luminaires
- CSA Standards: C22.2 No. 137

Standard Materials:

 Copper-free aluminum except sheet aluminum reflectors

Standard Finishes:

- Natural except reflectors
- Reflectors white epoxy powder coat

Options:

Poscription For suitability for wet locations and locations having deposits of readily combustible

Fused (not suitable for marine applications)......
 Furnished with lamps.....
 S714

electromagnetic ballast for 40 watt T12 rapid start luminaires rated for 0°F.....

Mounting Suffix Accessories:

Various hazardous area fittings are used to mount EVF Luminaires. The fittings shown on next page support the unwired (relamping) end. For the wired (ballast) end any of the luminaire hangers for hazardous locations (listed in Section 7L) can be used. CPS conduit outlet bodies with hub covers (listed in Section 3F) are also suitable.

Size Ranges:

• 1, 2, 3, and 4-lamp

Electrical Rating Ranges:

• 32 to 110 watts

Temperature Performance Data: (Based on 40°C Ambient)

Class I/Class II/Zone 1

Lamp Type	1-Lamp	2-Lamp	3-Lamp	4-Lamp	Supply Wire
32/40W	T5	T5	T5	T5	75°C
60W 110W	T5 T4	T5 T4	T5 T4	T5 T4	75°C 90°C

Crouse-Hinds



Ceiling Saddle Conduit Support

Description	Size (In.)	Cat. #
Ceiling Saddle for	3/4	EVF20



Ceiling Saddle Support Hook

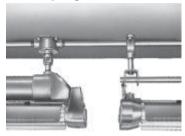
Description	Cat. #
Ceiling Saddle for Support Hook	EVF021



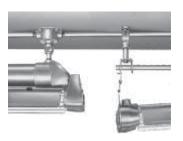
Support Hook for Conduit

Description	Size (In.)	Cat. #
Support Hook for Conduit	3/4	EVF21

Relamping Information



Adjacent ends of two fixtures suspended in line close together



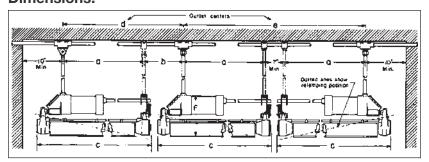
End of one fixture lowered for relamping



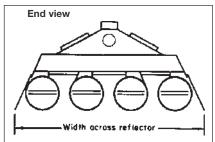
One cover removed and lamp partly withdrawn

Where fixtures abut, space for relamping is obtained by lowering one end of the tube assembly as shown. Without tools, the lamp receptacle and mounting plate assemblies can be removed and the lamp withdrawn. In inserting, the reverse procedure is followed.

Dimensions:



Fixture Type	No. Lamps	а	b	С	d	е	f
32 watt, T-8 Bi-pin							
40 watt, T-12 Bi-pin							
40 watt, T-12 Single pin slimline	1 or 2	44	11	533/8	55	95	101/4
60 watt, T-12 Recessed contact	3 or 4	461/2	81/2	533/8	55	100	101/4
110 watt, T-12 Recessed contact							



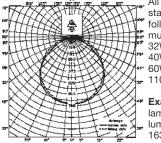
No. of Lamps	Width
1-Lamp	6¹/ ₈
2-Lamp	111/2
3-Lamp	18
4-Lamp	241/2

<u>5</u>L

5L **EVF Series Fluorescent Luminaires**

Luminaire: All 1-Lamp EVF Luminaires

Lamp: Zonal Degrees: Zonal Lumens: **Total Bare Lamp Lumens:** 1-40/T-12, 1-60/T-12 0-30 0-40 0-60 0-90 580 953 1633 1897 3100



All data provided is for 40W rapid start cool white lamps. Use following candlepower/lumen multipliers for other lamp sizes: 32W 0.90 40W Slimline 0.84

60W Cool white 1.29 110W Cool white 2.19

Example: Zonal lumens of 1-40W lamp for 0-60° is 1633. Zonal lumens of 1–60W lamp for 0–60 is 1633 x 1.29 = 2107

Coefficient of Utilization

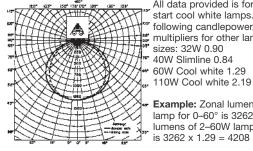
Effective Floor Cavity Reflectance 20%

% Reflectance Eff. Ceil.	e Wall	Room 0	Cavity Ra 2	atio 3	4	5
80	50	.697	.616	.546	.485	.434
	30	.670	.574	.497	.430	.376
	10	.647	.539	.458	.388	.334
70	50	.682	.604	.538	.477	.425
	30	.658	.565	.490	.426	.372
	10	.635	.534	.454	.385	.331
50	50	.653	.580	.518	.460	.412
	30	.633	.549	.478	.416	.365
	10	.616	.520	.446	.380	.329
30	50	.627	.559	.500	.445	.399
	30	.612	.533	.467	.407	.357
	10	.597	.509	.438	.375	.325
10	50	.605	.539	.484	.431	.388
	30	.591	.517	.455	.397	.351
	10	.579	.498	.431	.370	.321

	10	.579	.498	.431	.370	.321
% Reflectance	Э	Room (Cavity Ra	atio		
Eff. Ceil.	Wall	6	7	8	9	10
	50	.391	.351	.316	.289	.252
80	30	.334	.295	.262	.235	.198
	10	.294	.257	.223	.197	.164
	50	.384	.346	.312	.285	.248
70	30	.330	.292	.260	.233	.198
	10	.290	.255	.222	.197	.164
	50	.372	.336	.303	.277	.242
50	30	.324	.286	.255	.229	.195
	10	.288	.252	.221	.196	.162
	50	.361	.325	.295	.270	.236
30	30	.319	.283	.251	.225	.192
	10	.286	.249	.219	.194	.161
	50	.351	.318	.287	.263	.230
10	30	.312	.278	.247	.222	.189
	10	.283	.248	.218	.193	.159

Luminaire: All 2-Lamp EVF Luminaires

Lamp: Zonal Degrees: 1765 3262 **Zonal Lumens:** 1055 4125 Total Bare Lamp Lumens: 6300



All data provided is for 40W rapid start cool white lamps. Use following candlepower/lumen multipliers for other lamp sizes: 32W 0.90 40W Slimline 0.84 60W Cool white 1.29

Example: Zonal lumens of 2-40W lamp for 0-60° is 3262. Zonal lumens of 2-60W lamps for 0-60 is 3262 x 1.29 = 4208

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

% Reflectance Eff. Ceil.	e Wall	Room (Cavity Ra	atio 3	4	5
80	50	.697	.616	.546	.485	.434
	30	.670	.574	.497	.430	.376
	10	.647	.539	.458	.388	.334
70	50	.682	.604	.538	.477	.425
	30	.658	.565	.490	.426	.372
	10	.635	.534	.454	.385	.331
50	50	.653	.580	.518	.460	.412
	30	.633	.549	.478	.416	.365
	10	.616	.520	.446	.380	.329
30	50	.627	.559	.500	.445	.399
	30	.612	.533	.467	.407	.357
	10	.597	.509	.438	.375	.325
10	50	.605	.539	.484	.431	.388
	30	.591	.517	.455	.397	.351
	10	.579	.498	.431	.370	.321

% Reflecta	% Reflectance		Room Cavity Ratio			
Eff. Ceil.	Wall	6	7	8	9	10
	50	.391	.351	.316	.289	.252
80	30	.334	.295	.262	.235	.198
	10	.294	.257	.223	.197	.164
•	50	.384	.346	.312	.285	.248
70	30	.330	.292	.260	.233	.198
	10	.290	.255	.222	.197	.164
	50	.372	.336	.303	.277	.242
50	30	.324	.286	.255	.229	.195
	10	.288	.252	.221	.196	.162
	50	.361	.325	.295	.270	.236
30	30	.319	.283	.251	.225	.192
	10	.286	.249	.219	.194	.161
	50	.351	.318	.287	.263	.230
10	30	.312	.278	.247	.222	.189
	10	.283	.248	.218	.193	.159

5L

EVF Series Fluorescent Luminaires

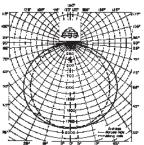
Luminaire: All 3-Lamp EVF Luminaires

 Lamp:
 3-40/T-12, 3-38/T-12, 3-60/T-12, 3-110/T-12

 Zonal Degrees:
 0-30
 0-40
 0-60
 0-90

 Zonal Lumens:
 1917
 3226
 6066
 7919

Total Bare Lamp Lumens: 9300



All data provided is for 40W rapid start cool white lamps. Use following candlepower/lumen multipliers for other lamp sizes:

32W 0.90 40W Slimline 0.84 60W Cool white 1.29 110W Cool white 2.19

Example: Zonal lumens of 3–40W lamps for 0–40° is 3226. Zonal lumens of 3–40W Slimline lamps for 0–40° is $3226 \times 0.84 = 2710$

Coefficient of Utilization

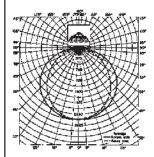
Effective Floor Cavity Reflectance 20%

% Reflectance		Room Cavity Ratio				
Eff. Ceil.	Wall	1	2	3	4	5
	50	.712	.626	.553	.489	.436
80	30	.683	.581	.500	.431	.376
	10	.658	.544	.459	.386	.331
	50	.697	.614	.544	.481	.427
70	30	.670	.572	.494	.426	.371
	10	.646	.539	.455	.383	.328
	50	.667	.589	.524	.463	.414
50	30	.645	.555	.481	.416	.364
	10	.626	.524	.446	.378	.326
	50	.640	.567	.505	.447	.400
30	30	.623	.539	.469	.407	.356
	10	.607	.513	.439	.374	.322
	50	.617	.547	.488	.433	.388
10	30	.602	.523	.457	.397	.350
	10	.589	.502	.431	.368	.318

% Reflectance Room Cavity Ratio						
Eff. Ceil.	Wall	6	7	8	9	10
80	50	.392	.352	.317	.289	.252
	30	.332	.293	.260	.233	.196
	10	.290	.254	.219	.194	.160
70	50	.385	.347	.312	.285	.248
	30	.329	.290	.258	.230	.196
	10	.287	.251	.218	.194	.160
50	50	.372	.336	.303	.277	.242
	30	.322	.284	.253	.227	.193
	10	.285	.248	.217	.192	.159
30	50	.362	.325	.295	.269	.236
	30	.317	.280	.248	.223	.190
	10	.282	.245	.215	.191	.157
10	50	.351	.317	.286	.262	.230
	30	.310	.276	.244	.220	.187
	10	.279	.244	.214	.189	.156

Luminaire: All 4-Lamp EVF Luminaires

Lamp: 4-40/T-12, 4-38/T-12, 4-60/T-12, 4-110/T-12
Zonal Degrees: 0-30 0-40 0-60 0-90
Zonal Lumens: 1961 3305 6250 8224
Total Bare Lamp Lumens: 12400



All data provided is for 40W rapid start cool white lamps. Use following candlepower/lumen multipliers for other lamp sizes: 32W 0.90

40W Slimline 0.84 60W Cool white 1.29 110W Cool white 2.19

Example: Zonal lumens of 4–40W lamps for 0–30° is 1961. Zonal lumens of 4–110W Slimline lamps for 0–30° is 1961 x 2.19 = 4295

Coefficient of Utilization

Effective Floor Cavity Reflectance 20%

				4	5
					.421
					.362
					.318
					.412
					.357
10	.628	.521	.439	.369	.315
50	.648	.571	.507	.447	.399
30	.627	.538	.465	.401	.351
10	.609	.507	.431	.364	.313
50	.622	.550	.488	.432	.386
30	.606	.522	.453	.392	.343
10	.590	.497	.423	.360	.309
50	.600	.530	.472	.418	.374
			.442		.337
			.416		.305
% Reflectance		Cavity F	Rati∩		
Wall	6	7	8	9	10
Wall 50				.279	.243
Wall 50 30	.379 .320	.340 .282	.306 .250	.279 .224	.243 .189
Wall 50	.379	.340	.306	.279	.243
Wall 50 30	.379 .320	.340 .282	.306 .250	.279 .224	.243 .189
Wall 50 30 10	.379 .320 .278	.340 .282 .243	.306 .250 .210	.279 .224 .185	.243 .189 .153
Wall 50 30 10 50	.379 .320 .278	.340 .282 .243 .335	.306 .250 .210	.279 .224 .185	.243 .189 .153
Wall 50 30 10 50 30 10	.379 .320 .278 .372 .316 .275	340 .282 .243 .335 .279 .240	8 .306 .250 .210 .301 .248 .209	.279 .224 .185 .275 .221 .185	.243 .189 .153 .239 .189 .153
Wall 50 30 10 50 30 10 50 30 10	.379 .320 .278 .372 .316	340 .282 .243 .335 .279 .240	.306 .250 .210 .301 .248	.279 .224 .185 .275 .221	.243 .189 .153 .239 .189 .153
Wall 50 30 10 50 30 10	.379 .320 .278 .372 .316 .275	340 .282 .243 .335 .279 .240	8 .306 .250 .210 .301 .248 .209	.279 .224 .185 .275 .221 .185	.243 .189 .153 .239 .189 .153
Wall 50 30 10 50 30 10 50 30 10 50 30 10	.379 .320 .278 .372 .316 .275 .359 .310 .273	7 .340 .282 .243 .335 .279 .240 .324 .273 .238	306 .250 .210 .301 .248 .209 .292 .243 .208	.279 .224 .185 .275 .221 .185 .267 .218 .184	.243 .189 .153 .239 .189 .153 .233 .185 .152
Wall 50 30 10 50 30 10 50 30 10 50 30 10 50	379 .320 .278 .372 .316 .275 .359 .310 .273	7 .340 .282 .243 .335 .279 .240 .324 .273 .238	8 .306 .250 .210 .301 .248 .209 .292 .243 .208	.279 .224 .185 .275 .221 .185 .267 .218 .184	.243 .189 .153 .239 .189 .153 .233 .185 .152
Wall 50 30 10 50 30 10 50 30 10 50 30 10	.379 .320 .278 .372 .316 .275 .359 .310 .273	7 .340 .282 .243 .335 .279 .240 .324 .273 .238	306 .250 .210 .301 .248 .209 .292 .243 .208	.279 .224 .185 .275 .221 .185 .267 .218 .184	.243 .189 .153 .239 .189 .153 .233 .185 .152
Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 10	.379 .320 .278 .372 .316 .275 .359 .310 .273 .349 .305 .271	7 .340 .282 .243 .335 .279 .240 .324 .273 .238 .313 .269 .235	.306 .250 .210 .301 .248 .209 .292 .243 .208 .284 .238 .206	.279 .224 .185 .275 .221 .185 .267 .218 .184 .260 .214 .183	.243 .189 .153 .239 .189 .153 .233 .185 .152 .227 .182 .150
Wall 50 30 10 50 30 10 50 30 10 50 30 10 50 30 30 30	379 .320 .278 .372 .316 .275 .359 .310 .273 .349 .305	7 .340 .282 .243 .335 .279 .240 .324 .273 .238 .313 .269	8 .306 .250 .210 .301 .248 .209 .292 .243 .208	.279 .224 .185 .275 .221 .185 .267 .218 .184	.243 .189 .153 .239 .189 .153 .233 .185 .152
	30 10 50 30 10 50 30 10	Wall 1 50 .692 30 .664 10 .639 50 .678 30 .652 10 .628 50 .648 30 .627 10 .609 50 .622 30 .606 10 .590 50 .600 30 .585 10 .572	Wall 1 2 50 .692 .607 30 .664 .563 10 .639 .526 50 .678 .595 30 .652 .554 10 .628 .521 50 .648 .571 30 .627 .538 10 .609 .507 50 .622 .550 30 .606 .522 10 .590 .497 50 .600 .530 30 .585 .506 10 .572 .486	Wall 1 2 3 50 .692 .607 .535 30 .664 .563 .484 10 .639 .526 .442 50 .678 .595 .526 30 .652 .554 .477 10 .628 .521 .439 50 .648 .571 .507 30 .627 .538 .465 10 .609 .507 .431 50 .622 .550 .488 30 .606 .522 .453 10 .590 .497 .423 50 .600 .530 .472 30 .585 .506 .442 10 .572 .486 .416	Wall 1 2 3 4 50 .692 .607 .535 .473 30 .664 .563 .484 .416 10 .639 .526 .442 .372 50 .678 .595 .526 .465 30 .652 .554 .477 .411 10 .628 .521 .439 .369 50 .648 .571 .507 .447 30 .627 .538 .465 .401 10 .609 .507 .431 .364 50 .622 .550 .488 .432 30 .606 .522 .453 .392 10 .590 .497 .423 .360 50 .600 .530 .472 .418 30 .585 .506 .442 .383 10 .572 .486 .416 .354

Applications:

- EVFDR Luminaires are suitable for wet locations and marine environments, above and below deck, where hazardous vapors, gases or dusts are present
- Ideally suited for use on offshore drilling/production platforms and on shipboard in hazardous areas
- For mounting where headroom is limited
- For hazardous areas where watertightness and corrosion resistance are required

Features:

- Exterior surfaces finished with gray epoxy enamel for corrosion resistance
- · Exterior hardware stainless steel
- All joints sealed and gasketed for watertightness
- Vibration resistant
 - Shock mounts
 - Sockets are spring loaded for tight lamp contact connection
- Heavy duty glass lamp tubes for maximum strength and impact resistance
- · All exterior materials are non-sparking
- C-type beam clamps provide quick and easy mounting
- Luminaire is adjustable 30° either side of fixture axis, allowing for control of light output
- Beam clamp support is adjustable allowing beam clamp to be located to suit structure
- Low profile luminaire height is 7¹³/₁₆" with standard mounting, 11¹¹/₁₆" with shock mounting option for maximum clearance where headroom is critical
- Provides cool light with natural color rendition
- Continuous and uniform illumination made possible by mounting end to end (no space needed between luminaires for relamping) – see page 1113 for relamping information
- Relamping is accomplished without tools; quarter-turn fastener allows end of luminaire to be lowered quickly; cable supports end of luminaire while relamping – both hands are free; threaded lamp tube cover provides quick and easy access to lamp and receptacle
- Reflectors can be removed or replaced with only a screwdriver
- · Ballast housing readily accessible
- Minimum weight copper-free aluminum construction throughout
- Type P ballast furnished in compliance with NEC
- Standard electronic ballast for 32 watt and 40 watt rapid start



- Standard energy-efficient electromagnetic ballast (40W slimline, 60W and 110W) is standard
- Low temperature ballasts are standard on 32W T8, 40W slimline, 60W and 110W; 32 watt and 40 watt low temperature ballasts are rated for 0°F; 60 and 100 watt low temperature ballasts are rated for -20°F

Certifications and Compliances:

• NEC and CEC:

Class I, Division 1, Groups C, D Class I, Zone 1, Group IIB Class II, Groups E, F, G Class III

Simultaneous Presence (Cl. and Cl. II)

- UL Standards: 844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations
- CSA Standards: C22.2 No. 137

Standard Materials:

- Housing copper-free aluminum
- Exposed hardware stainless steel

Standard Finishes:

- All exterior metal components gray epoxy enamel
- Reflectors white epoxy powder coat

Options:

- p	
Description	Suffix
Furnished with lamps	. S714
 Furnished with safety cable 	
for high vibration areas	. S715
 Beam clamps with shock 	
mounts are available for ease	
of installation and resistance	
to vibration	KIT40
Beam clamps only	KIT41
 Low temperature 	
electromagnetic ballast: 40W	
rapid start rated 0°F	
 Emergency lighting battery unit 	. S799

Size Ranges:

• 2-lamp only

Electrical Rating Ranges:

• 32, 40, 60 and 110W

Temperature Performance Data:

(Based on 40°C Ambient)

2-Lamp	Class II Zone 1	Supply Wire	
32, 40W	T5	75°C	
60W	T5	75°C	
110W	T4	90°C	

Ordering Information:

Furnished For	Hub	Line Volts	2-Lamp
Use With	Size	60 Hz.	Cat. #
32 watt, T-8 medium	3/4"	120–277	EVFDR22029/UNV
Bi-pin 265MA lamps	3/4"	347	EVFDR22029/347
40 watt, T-12 medium Bi-pin rapid start 430MA lamps†	3/ ₄ " 3/ ₄ "	110–125 277	EVFDR22082 EVFDR22087
60 watt, T-12 recessed contact, 800MA lamps	3/ ₄ ^{II}	110–125	EVFDR22062
	3/ ₄ ^{II}	277	EVFDR22067
110 watt, T-12 recessed contact, 1500MA lamps†	3/ ₄ "	110–125	EVFDR22072
	3/ ₄ "	277	EVFDR22077

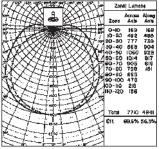
Luminaire: All EVFDR Luminaires

 Lamp:
 2-40/T-12, 2-60/T-12, 2-110/T-12

 Zonal Degrees:
 0-30
 0-40
 0-60
 0-90

 Zonal Lumens:
 1416
 2352
 4263
 5863

Total Bare Lamp Lumens: 8600



% Reflectance

> 32W .67 40W, Rapid Start .73 40W, Slimline .70 110W, Cool White 1.60

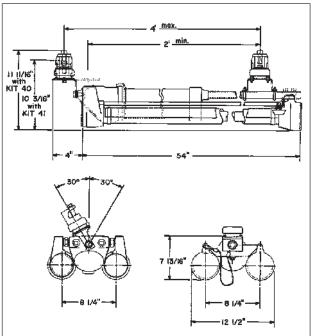
Example: Zonal lumens for EVFDR226 fixture, across the axis, for 40–50" is 1,060. Zonal lumens for EVFDR223 fixture, across the axis, is 40–50" is: 1,060 x .70 = 742

Coefficient of Utilization Effective Floor Cavity Reflectance 20%

Room Cavity Ratio

% Reflectar		ROOM	Cavity r	iauo		
Eff. Ceil.	Wall	1	2	3	4	5
	50	.735	.645	.570	.506	.452
80	30	.700	.594	.512	.442	.387
00	10	.670	.551	.466	.394	.339
	50	.714	.627	.557	.494	.440
70	30	.682	.580	.501	.435	.380
70	10	.653	.542	.458	.388	.334
	50	.673	.593	.528	.468	.420
50	30	.647	.554	.482	.418	.368
	10	.624	.520	.444	.378	.327
	50	.636	.562	.501	.446	.401
30	30	.616	.530	.463	.403	.354
	10	.596	.502	.430	.368	.319
	50	.603	.533	.477	.425	.383
10	30	.585	.507	.444	.388	.343
10	10	.570	.483	.416	.358	.311
0	0	.551	.465	.399	.340	.294
% Reflectar	nce	Room	Cavity F	Ratio		
Eff. Ceil.	Wall	6	7	8	9	10
	50	408	368	332	304	266
80	50 30	.408 344	.368	.332 271	.304	.266 207
80	30	.344	.305	.271	.243	.207
80	30 10	.344 .298	.305 .262	.271 .228	.243 .202	.207 .169
	30 10 50	.344 .298	.305 .262	.271 .228 .325	.243 .202	.207 .169
80	30 10 50 30	.344 .298 .398 .338	.305 .262 .360 .299	.271 .228 .325 .267	.243 .202 .297 .240	.207 .169 .260 .206
	30 10 50 30 10	.344 .298 .398 .338 .293	.305 .262 .360 .299 .258	.271 .228 .325 .267 .226	.243 .202 .297 .240 .201	.207 .169 .260 .206 .168
70	30 10 50 30 10	.344 .298 .398 .338 .293	.305 .262 .360 .299 .258	.271 .228 .325 .267 .226	.243 .202 .297 .240 .201	.207 .169 .260 .206 .168
	30 10 50 30 10 50 30	.344 .298 .398 .338 .293 .380 .327	.305 .262 .360 .299 .258 .344 .289	.271 .228 .325 .267 .226 .311 .259	.243 .202 .297 .240 .201 .285 .233	.207 .169 .260 .206 .168 .250 .199
70	30 10 50 30 10	.344 .298 .398 .338 .293	.305 .262 .360 .299 .258	.271 .228 .325 .267 .226	.243 .202 .297 .240 .201	.207 .169 .260 .206 .168
70	30 10 50 30 10 50 30 10 50	.344 .298 .398 .338 .293 .380 .327 .287	.305 .262 .360 .299 .258 .344 .289 .252	.271 .228 .325 .267 .226 .311 .259 .221	.243 .202 .297 .240 .201 .285 .233 .197	.207 .169 .260 .206 .168 .250 .199
70	30 10 50 30 10 50 30 10 50 30	.344 .298 .398 .338 .293 .380 .327 .287 .364 .317	.305 .262 .360 .299 .258 .344 .289 .252 .328 .282	.271 .228 .325 .267 .226 .311 .259 .221 .299 .251	.243 .202 .297 .240 .201 .285 .233 .197 .274 .226	.207 .169 .260 .206 .168 .250 .199 .164
7050	30 10 50 30 10 50 30 10 50	.344 .298 .398 .338 .293 .380 .327 .287	.305 .262 .360 .299 .258 .344 .289 .252	.271 .228 .325 .267 .226 .311 .259 .221	.243 .202 .297 .240 .201 .285 .233 .197	.207 .169 .260 .206 .168 .250 .199 .164
7050	30 10 50 30 10 50 30 10 50 30	.344 .298 .398 .338 .293 .380 .327 .287 .364 .317	.305 .262 .360 .299 .258 .344 .289 .252 .328 .282	.271 .228 .325 .267 .226 .311 .259 .221 .299 .251	.243 .202 .297 .240 .201 .285 .233 .197 .274 .226	.207 .169 .260 .206 .168 .250 .199 .164 .240 .193
70	30 10 50 30 10 50 30 10 50 30 10	.344 .298 .398 .338 .293 .380 .327 .287 .364 .317 .281	.305 .262 .360 .299 .258 .344 .289 .252 .328 .282 .246	.271 .228 .325 .267 .226 .311 .259 .221 .299 .251 .217	.243 .202 .297 .240 .201 .285 .233 .197 .274 .226 .193	.207 .169 .260 .206 .168 .250 .199 .164 .240 .193 .160
7050	30 10 50 30 10 50 30 10 50 30 10 50	.344 .298 .398 .338 .293 .380 .327 .287 .364 .317 .281	.305 .262 .360 .299 .258 .344 .289 .252 .328 .282 .246	.271 .228 .325 .267 .226 .311 .259 .221 .299 .251 .217	.243 .202 .297 .240 .201 .285 .233 .197 .274 .226 .193	.207 .169 .260 .206 .168 .250 .199 .164 .240 .193 .160
70	30 10 50 30 10 50 30 10 50 30 10 50 30 10	.344 .298 .398 .338 .293 .380 .327 .287 .364 .317 .281 .348 .306	.305 .262 .360 .299 .258 .344 .289 .252 .328 .282 .246	.271 .228 .325 .267 .226 .311 .259 .221 .299 .251 .217	.243 .202 .297 .240 .201 .285 .233 .197 .274 .226 .193 .263 .220	.207 .169 .260 .206 .168 .250 .199 .164 .240 .193 .160

Dimensions:



Champ-Pak™ Wall Pack & Floodlight Luminaires Hazardous and Non-hazardous

Description	Page No.
Application/Selection	see page 1120
Floodlights	
Champ-Pak™	
CPMV	see page 1121
H.I.D.	
FMV nR Series	see pages 1135-1138
FMV1000 nR High Wattage Series	see pages 1139-1141
Voyager nR™ Stainless Steel Series	see pages 1142-1145
F2MV Mini Floodlight Series	see pages 1150-1153
FZD Series	see pages 1154-1156
EVMA S812 Hazard Gard with Trunnion Arm	see page 1157
Incandescent	
RCDE Series	see pages 1158-1159
LED	
Champ® Pro PFM Series	see pages 1128-1129
Champ® Pro PFM25L and 50L Series	see pages 1130-1132
Champ® FMV Series	see pages 1146–1149

6L Champ-Pak™ Wall Pack & Floodlight Luminaires

Applications:

 General illumination of hazardous and non-hazardous areas

Table 500.8(C) Identification Numbers

Maximum Temperature		Temperature Class
Deg. C	Deg. F	(T Code)
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	Т6

Considerations for Selection:

Environmental:

 What is the hazardous area classification NEC*/CEC) of the location in which the luminaires will be installed?

Lighting levels required:

• What wattage luminaire(s) will provide the desired light levels?

Physical arrangement:

• Type of luminaire mounting required, threaded hub or mounting feet

Quick Selector Chart

Luminaire	NEC Hazardous Area Compliance	Lamp Size (Watts)	Lamp Base
CPMV	Cl. I, Division 2	50-150 HID	Mogul
EVMA-S812	Cl. I, Groups C, D Cl. I, Groups B (suffix GB), C, D	50-400 HID	Mogul
VOYAGER nR (SSFMV)	Cl. I, Division 2 Cl. I, Zone 2	150-400 HID	Mogul
F2MV, FMV, FMV High Wattage	Cl. I, Division 2	70–1500 HID	Mogul
FZD	Cl. I, Division 1, Groups B, C, D	150-400 HID	Mogul
RCDE-6	Cl. I, Groups C, D Cl. I, Group D	150 Incandescent 300 Incandescent	Medium
RCDE-10	Cl. I, Group D	500 Incandescent	Extended Mogul End Prong
PFM	Non-hazardous areas	64-179 LED	
PFM25L/PFM50L	Non-hazardous areas	263-531 LED	
FMV	Cl. I, Division 2, Groups A, B, C, D Cl. I, Zone 2 Cl. II, Groups E, F, G Cl. III	64–179 LED	

Champ-Pak™ Wall Pack Luminares

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Cl. III & Simultaneous Presence Zone 2 (Suffix S826) Certified for IFC 7one 2 (Suffix S826TB)

Cl. II, Groups F, G Marine & Wet Locations Enclosure Type 4X, IP66

The first low-profile wall pack designed specifically for hazardous areas.

The Eaton's Crouse-Hinds Champ-Pak™ Wall Pack Luminaire is ideal for low-profile mounting in hazardous and industrial environments. In fact, it is suitable for any area with adverse conditions such as dust, dirt, moisture, vibration, high-pressure hose downs, and high thermal ambients. Its precisely designed glass refractor minimizes fixture depth while providing uniform, glare-free illumination.

- Unique compact shallow-profile design mounts virtually anywhere
- · Side-hinged cover with two-screw closing for easy installation and maintenance
- Gray Corro-free[™] epoxy powder coated two-piece housing provides superior corrosion resistance
- Unique stainless steel wire guard accessory attaches without any additional hardware for easy installation and maintenance
- Glass refractor provides uniform light distribution to eliminate
- · Vertical lamp design provides even lamp heat distribution for cooler operation, providing expanded hazardous area suitability
- Silicone gaskets make luminaire suitable for enclosure Type 4X, marine, and IP66 environments
- · Available in two different conduit entry configurations to permit flexible installation and mounting
- Four 3/4" NPT hubs, one on each side
- Two ½" NPT hubs on bottom for feed-through applications



Applications:

- · Indoor and outdoor wall mounting or vertical surface mounting where minimal fixture depth is required in:
- · Manufacturing plants and heavy industrial facilities
- · Industrial process facilities such as refineries, chemical, petrochemical, pharmaceutical, and production platforms
- · Waste or sewage treatment plants
- · Offshore, dockside, and harbor installations
- · For security and safety lighting in industrial facilities
- For lighting of loading docks, tunnels, and stairways
- · For marine, wet location, hose down, and corrosive environments

Additional Features and Benefits:

- · Variety of lamp types and wattages-HID, fluorescent, and induction-to meet specific lighting needs
- High power-factor ballasts (+90%) are standard, which allow more luminaires per circuit
- Up to 65°C ambient suitability on select lamp types and wattages; ambient suitability of +40°C is standard; allows for installation in higher ambient environments commonly found in industrial facilities
- Low ambient starting capability (to -40°C) – perfect for colder climates
- Shock-absorbing HID mogul base lamp socket cushions lamp, improves lamp life in harsh environments

- · Compact fluorescent emergency luminaire provides 90 minutes of lighting during power outages, meeting UL924 and Life Safety Code
- Cost-effective induction lamp system provides extra long lamp life up to 100,000 hours; reaches full illumination immediately, providing crisp, white light
- NEC/CEC restricted breathing construction is available to provide cooler temperature classes (T codes) for expanded hazardous area suitability
- Simplified method for compliance to NEC restricted breathing conduit sealing requirements makes installation

6L Champ-Pak™ Wall Pack Luminares

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups F, G Cl. III & Simultaneous Presence Marine & Wet Locations Enclosure Type 4X, IP66

Certifications and Compliances:

• Luminaires For Use With ANSI Lamps (Mogul Base):

UL/cUL Listed

NEC and CEC Class I, Division 2 and Class I, Zone 2

Restricted Breathing Class I, Division 2 and Zone 2 (suffix S826)

Class II, Groups F, G

Class III

Simultaneous Presence

Certified for IEC Zone 2 (suffix S826TB)

Wet Locations; Marine Locations; Enclosure Type 4X; IP66

UL Standards:

844 - Hazardous (Divisions Classified) Locations

1598 - Luminaires

1598A - Luminaires for Marine Vessels

924 - Emergency Lighting (Fluorescent Emergency Luminaire)

• CSA Standards:

C22.2 No. 9 and 137

CAN/CSA-E60079-15:02

 IEC Standards: 60079-15

Standard Materials:

- Fixture housing and door frame assembly copper-free aluminum
- External hardware stainless steel
- Refractor lens borosilicate glass
- Gasket silicone
- Reflector aluminum light sheet
- Wire guard stainless steel

Standard Finishes:

- Aluminum Corro-free[™] epoxy powder coat
- Stainless steel natural

Ratings (Electrical/Size):

Sources/Wattages

- High-pressure sodium (HPS) mogul base 50, 70, 100 & 150
- Metal halide (MH) mogul base 70, 100 & 150
- Compact fluorescent 26, 32, 42, 52, 64 & 84
- Emergency fluorescent 26
- Induction 55 & 85

Voltages

HID Standard-Voltage Ballasts

- Dual tap (120 & 277 V, 60 Hz-for 50 W HPS only)-prewired at 277 V
- Multi-tap (120, 208, 240 & 277 V, 60 Hz)-prewired at 277 V
- Tri-tap (120, 277 & 347 V, 60 Hz)-prewired at 347 V
- 120 V, 60 Hz
- 480 V, 60 Hz

Fluorescent Standard Voltage Ballasts

- 120-277 V, 50-60 Hz
- 120 V, 50 Hz (for Canada only)
- 347 V, 60 Hz (for Canada only)

Induction Standard Voltage Ballasts

- 120 V, 50-60 Hz (also 120 V DC)
- 230 V, 50-60 Hz (also 240 V DC)

HID Optional Voltage Ballasts

- 220 V. 50 Hz
- 220 V, 60 Hz
- 240 V, 50 Hz

Fluorescent Optional Voltage Ballasts (Consult Factory)

- 125 V DC
- 12 V DC
- 24 V DC

Isolated Ballasts And Specials (Consult Factory)

- 208 V, 60 Hz CWI Isolated Ballast
- 240 V, 60 Hz CWI Isolated Ballast
- 480 V, 60 Hz CWI Isolated Ballast

Conduit Entries

- Four ¾" NPT entries, one on each side, top and bottom (3 plugged)
- Two 1/2" NPT entries on bottom for feed-through (1 plugged)
- Metric entries consult factory

Champ-Pak™ Wall Pack Luminares

CI. I, Div. 2, Groups A, B, C, D Restricted Breathing CI. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) CI. II, Groups F, G CI. III & Simultaneous Presence Marine & Wet Locations Enclosure Type 4X, IP66

Ordering Information HID Luminaires:

Hub Size	Lamp Watts	Cat. #
High-Pressure Sodium		
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	50	CPMVS2W050 CPMVS1W050
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	70	CPMVS2W070 CPMVS1W070
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	100	CPMVS2W100 CPMVS1W100
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	150 (for 55 V lamp)	CPMVS2W150 CPMVS1W150
Metal Halide		
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	70	CPMVM2W070 CPMVM1W070
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	100	CPMVM2W100 CPMVM1W100
Metal Halide-Pulse Start		
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	150	CPMVM2W150 S828 CPMVM1W150 S828

To complete Catalog Number, add Voltage and Option suffix(es).

Voltage Suffixes:

		NEC/UL		
Voltage (60 Hz)	Dual Tap	Multi Tap	120	480
Suffix	/DT	/MT	/120	/480
		CEC (CSA/cUI	∟)	
Voltage (60 Hz)	Dual Tap	Tri Tap	120	
Suffix	/DT	/TT	/120	
50W HPS is available only	with suffix /DT.			

Ordering Information Induction Luminaires With Lamp (100,000 hours):

Hub Size	Lamp Watts	Cat. #
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	55	CPMVIG2W055 CPMVIG1W055
Four ³ / ₄ " NPT (one each side) Two ¹ / ₂ " NPT (on bottom)	85	CPMVIG2W085 CPMVIG1W085

Voltage Suffixes:

Voltage	120 V (also 120 V DC) (50–60 Hz)	230 V (also 240 V DC) (50–60 Hz)
Suffix	/120	/230

Ordering Information Fluorescent Luminaires:

Hub Size	Watts	Cat. #
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	26 (one 26 W lamp)	CPMVF2W026 CPMVF1W026
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	32 (one 32 W lamp)	CPMVF2W032 CPMVF1W032
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	42 (one 42 W lamp)	CPMVF2W042 CPMVF1W042
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	52 (two 26 W lamps)	CPMVF2W052 CPMVF1W052
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	64 (two 32 W lamps)	CPMVF2W064 CPMVF1W064
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	84 (two 42 W lamps)	CPMVF2W084 CPMVF1W084

Voltage Suffixes:

	NEC/CEC (UL, CSA, cUL)	CEC (CSA, cUL)
	120-277 V	347 V
Voltage	(50–60 Hz)	(60 Hz)
Suffix	/UNV	/347

Ordering Information Fluorescent Emergency Luminaires - Continuous Operation:

Hub Size	Lamp Watts	Cat. #
Four 3/4" NPT (one each side) Two 1/2" NPT (on bottom)	26 (one 26 W lamp)	CPMVFB2W026 CPMVFB1W026

Voltage Suffixes:

	NEC/CEC (UL, CSA, cUL)	CEC (CSA, cUL)		
	120-277 V	120 V	347 V	
Voltage	(50-60 Hz)	(60 Hz)	(60 Hz)	
Suffix	/UNV	/120 CAN	/347	

Compelling reasons to choose the Champ induction luminaire as the light source for industrial and hazardous locations include:

- Crisp, white light (80+ color rendering index) provides increased safety by clearly illuminating signs, instrument panels, equipment, and more with vibrant natural colors
- Up to 100,000 hours of lamp life minimizes routine maintenance costs; if you operate this luminaire for 24 hours, 7 days a week, you will not need to change the lamp for up to 11 years!
- Instant illumination no waiting for lamp warm-up time; increases productivity and safety
- Delivers the best possible luminaire temperature rating T6 (85°C) when used with the Champ restricted breathing option; ideal for hazardous areas where a low ignition temperature is required
- Starts in low temperatures as low as -40°C

6L Champ-Pak™ Wall Pack Luminares

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

CI. II, Groups F, G CI. III & Simultaneous Presence Marine & Wet Locations; Enclosure Type 4X, IP66

P55

Options:	
Description	Suffix
Ballast-Gard™ starter cut-out switch	
Not available with IR or QTZ options	BG
Factory Assembled with Lamp Installed	FA
·	
Not available with BG or QTZ options	IR
Guard—Factory Installed on Luminaire	Р
(Guard suffix follows wattage designation, e.g.,	Р
CPMVS2W100P/MT)	
Quartz Auxiliary	OTZ
Fused	
Not available with CPMVIG and CPMVFB luminaires	3056
Not suitable for marine applications	
Restricted Breathing Construction (AEx nR, Ex nR)	S826
, , ,	0020
Certified For IEC Zone 2 (Ex nR) (UL Classified to the	
IEC Standard)	S826TB
Furnished with: • 4 mm², 3-point terminal block	
Crimp internal wiring connections	
P55 quard	
V2PC Photocell—Factory Installed	
• 120 V, 50–60 Hz	/V2PC20
• 208–240 V, 50–60 Hz	/V2PC22
• 277 V, 50–60 Hz	/V2PC27
Optional Voltage Ballasts for HID Luminaires	
• 220 V, 50 Hz	/220 50
• 220 V, 60 Hz	/220 60
• 240 V, 50 Hz	/240 50
Optional Voltage Ballasts for Fluorescent Luminaires	
(Consult Factory) • 125 V DC	(405.1/50
• 125 V DC	
• 24 V DC	
Isolated Ballast for HID Luminaires	/24 V DO
(Consult Factory)	
• 208 V, 60 Hz	/208CWI
• 240 V, 60 Hz	
• 480 V, 60 H	/480CWI
*When ordering fuses for luminaires, option S658, you must specify the operatin S658 cannot be ordered with /MT in the catalog number.	g voltage.

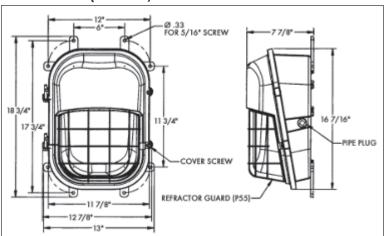
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Л	\sim	~	20	0	NI	ies:	
-				. 71		C.D.	

Stainless Steel Wire Guard

A0003301103.	
(Order Separately)	
Description	Cat. #
Photocell For Field Installation	
• 120 V, 50–60 Hz	V2PC20
• 208–240 V, 50–60 Hz	V2PC22
• 277 V, 50–60 Hz	V2PC27
In Canada, use factory-installed photocell only.	

Dimensions (In Inches):

TEFLON is a registered trademark of E.I. duPont Co.



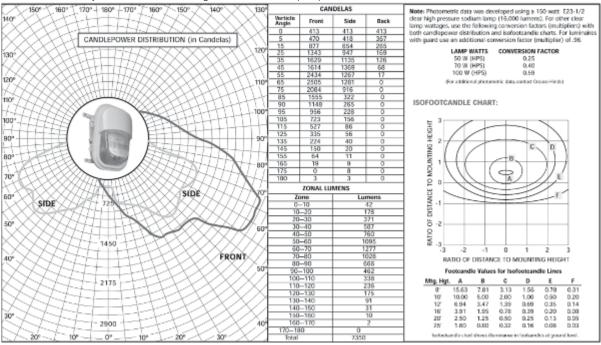
Note: Approximate weight less guard 28 lbs. P55 guard 0.5 lbs.

Champ-Pak™ Wall Pack Luminares

CPMV Photometric Data

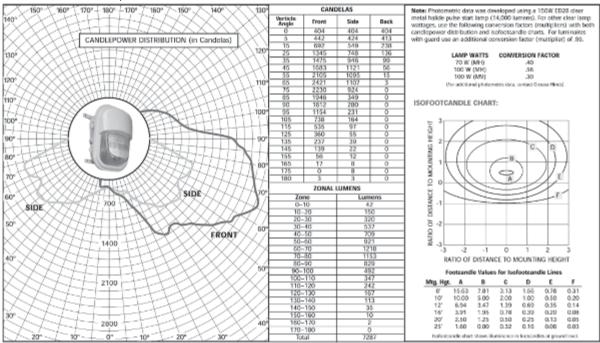
Luminaire With Refractor Less Wire Guard

CPMVS2W150 Lamp: 150 W/E23-1/2 Clear High Pressure Sodium (HPS)



Luminaire With Refractor Less Wire Guard

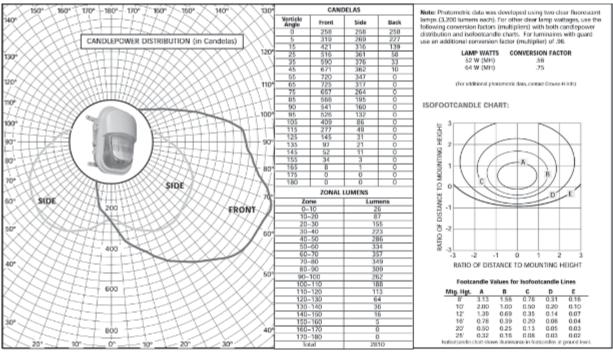
CPMVM2W150-S828 Lamp: 150 W/ED28 Clear Pulse Start Metal Halide



For additional photometric data, contact Eaton's Crouse-Hinds.

Luminaire With Refractor Less Wire Guard

CPMVF2W084 Lamps: (2) PL-T 42W/30/4P Compact Fluorescent



For additional photometric data, contact Eaton's Crouse-Hinds.

Champ-Pak™ Wall Pack Luminares

Temperatu	ure Perf		Class I on 2 and Zone 2		Class	eous Presence s I/Class II sent in the Same Area)	
Watts	Ambient Temp.°C	Standard Product	Restricted Breathing AEx nR/Ex nR Option S826	Class II and Class III	Standard Product Suitable for Class I, Division 2/Class II	Restricted Breathing AEx nR/Ex nR Option S826 Suitable for Class I, Division 2 or Zone 2 and Class II	Supply Wire Temp.°C
HIGH PRESSUI							
50	40 55 65*	T3A T3A T3	T6 T6 T5	T5 T4A* —	T3A/T5 T3/T4A* —	T5 T4* —	90 105 105
70	40 55 65*	T3A T3A T3	T6 T6 T5	T5 _ _	T3A/T5 _ _	T5 _ _	90 105 105
100	40 55*	T2C T2C	T5 T4	Consult Factor 105°C Supply	y for Class II Suitability wi Wire	ith	90 105
150	40	T2B	T4	_	_	_	105
METAL HALIDE							
70	40 55 65*	T3C T3C T3C	T6 T6 T5	T5 —	T3C/T5 —	T5 _ _	90 105 105
100	40	T3	T6				90
150PS (S828)	40	T2D	T5	_			105
							100
COMPACT FLU 26	40	T3B	T6	T6	T3B/T6	T6	75
26 (347 V)	55 40	T3A T3	T6 T6	_	_	_	75 75
32	40 55	T3B T3A	T6 T6	T6 _	T3B/T6 —	T6 _	75 75
32 (347 V)	40	T3	T6	_	_	_	75
42 (120–277 V)	40	T3B	T6	T6	T3B/T6	T6	75
42 (347 V)	55 40	T3A T3	T6 T6	_			75 75
52	40 55	T3 T3	T6 T6	T6 —	T3B/T6 —	T6 —	75 90
64	40 55	T3 T3	T6 T6	T6 _	T3/T6 —	T6 —	75 90
84	40	T2C	T6	_	_	_	90
EMERGENCY F	LUORESCI	ENT					
26	40*	T3B	T6	_	_	_	75
INDUCTION							
55	40* 55*	T2D T2D	T6 T6	T6 _	_	T6 —	75 75
85	40*	T2B	T6	_	_	_	75

^{*}Fuses (suffix S658) are not available for indicated light sources and ambient temperatures.

Note: Luminaires requiring 105°C supply wire are furnished with 3 ft. of rated wire for external wiring connection.

UL/cUL Listed NEMA 4X IP66

Perfect for outdoor/indoor flood illumination

The Champ[®] Pro PFM Family

Champ® Pro PFM Series Floodlights are designed to provide full-spectrum, crisp, white light. Five versions of the Champ PFM LED are available, providing ideal solutions for a wide range of applications.

Champ [®] Pro PFM Model	Equivalent MH HID Lamp	Energy Savings
PFM5L PFM7L PFM9L PFM11L PFM13L	100W-150W 150W-175W 175W-250W 250W-400W 400W	Up to 62%!

Certifications and Compliances:

- UL1598
- UL1598A
- cUL
- NEMA 4X; IP66
- DesignLights Consortium® approved for select models (refer to Ordering Information for details)

Drivers:

Model	5L - 13L
Standard	90-305 VAC, 50 / 60 Hz; 108-250 VDC
Option 1 Option 2	347 VAC Model 480 VAC Model

Standard Materials:

- Housing copper-free aluminum with Corro-free™ epoxy powder coat
- Lens shatter-resistant glass
- Gaskets silicone
- External hardware stainless steel
- Factory-sealed, no external seals required

LED System:

- High brightness light emitting diode (LED) arrays
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions



Electrical Ratings:

•	PFM5L	PFM7L	PFM9L	PFM11L	PFM13L
Valla na Banana MAO			100-277V 50	1-60 Hz	
Voltage Range, VAC			347 / 480V	60 Hz	
Voltage Range, VDC	108-250	108-250	108-250	108-250	108-250
Input Power (Nom.)	64	89	121	149	179
Input Amps (Max.)	0.550	0.800	1.083	1.608	1.608
Power Factor	>0.85	>0.85	>0.85	>0.85	>0.85

Ordering Information:

	Color Temperature	5L Series	7L Series	9L Series	11L Series	13L Series
Cool Color Temperatur	Cool Colon Toron anatoms	PFM5LCY/UNV1 76	PFM7LCY/UNV1 76	PFM9LCY/UNV1 76	PFM11LCY/UNV1 76	PFM13LCY/UNV1 76
	Cool Color Temperature	PFM5LCY/120 76*	PFM7LCY/120 76*	PFM9LCY/120 76*	PFM11LCY/120 76*	PFM13LCY/120 76*
	Warm Color Temperature	PFM5LWY/UNV1 76	PFM7LWY/UNV1 76	PFM9LWY/UNV1 76	PFM11LWY/UNV1 76	PFM13LWY/UNV1 76

For 347 VAC option, replace /UNV1 with /347. For 480 VAC option, replace /UNV1 with /480.

To order fixture without optics, remove '76' from the end of the catalog number.

*5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions. DesignLights Consortium approved models. Cool white only.

Options:

Description	Suffix
Fused (only applies to UNV1 model, not available for 347V or 480V; NOT marine or cUL Listed)	S658
Two conduit/cable glands of like thread installed	S886

Accessories:

Description Catalog No. Sold Separately

Bolt-on visor (sold separately)

Bolt-on wire guard (sold separately)

Floodlight slipfitter (sold separately)

SFA6

Slipfitter wall mount adapter (sold separately)

SWB6

Crouse-Hinds

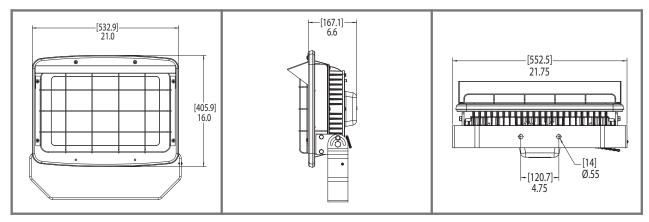
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Champ® Pro PFM Series Luminaires

UL/cUL Listed NEMA 4X IP66

Perfect for outdoor/indoor flood illumination

Dimensions:



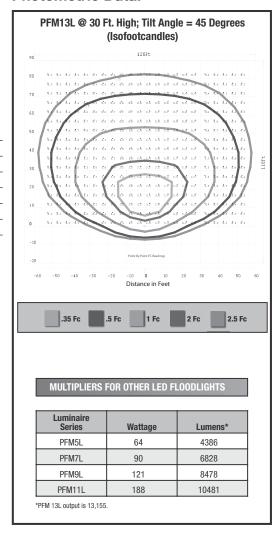
Weights:

Model	Lbs.
5L	39.11
7L	39.16
9L	39.73
11L	40.35
13L	40.35

Ambient Temperature:

	Champ [®] Pro PFM Model	Max. Temp. °C
	PFM5L	55
	PFM7L	55
	PFM9L	55
-	PFM11L	40
	PRIVITE	55
	PFM13L	40
	FFINITSL	55

Photometric Data:



PFM LED Series Floodlights are designed to provide full-spectrum, crisp, white light. Two versions of the Champ Pro PFM LED are available, providing ideal solutions for a wide range of applications.

PFM Model	Equivalent HID Lamp	Energy Savings
PFM25L	750W MH	
PFM50L	1500W MH / 1000W HPS	Up to 65%!

Applications:

- High lumen output for installation in high mounting heights
- Locations requiring continuous and consistent light levels
- Areas requiring frequent on-and-off of lights
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist; indoors or outdoors
- NEMA 4X, marine, wet locations, and hose-down environments
- Indoor and outdoor area lighting in plants, buildings, and parking areas
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; platforms; loading docks; outdoor mounted general area lighting
- Ball mills, stackers and reclaimers, concentrators, smelters, mine roadways, outdoor processing areas, truck service shops, shovels, and drag lines

Certifications and Compliances:

- UL1598
- UL1598A
- cUL

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- NEMA 4X; IP66
- DesignLights Consortium® approved for select models (refer to Ordering Information for details)
- UL approved up to 40°C ambient



PFM50L Model

Standard Materials:

- Housing copper-free aluminum with Corro-free™ epoxy powder coat
- Lens heat- and impact-resistant glass
- Yoke mount (standard) copper-free aluminum with Corro-free[™] epoxy powder coat
- Gaskets silicone
- External hardware stainless steel
- Factory-sealed, no external seals required

LED System:

- High brightness light emitting diodes (LEDs)
- Color temperature: 5000K (CRI 67)
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- LM-79, LM-80 reports available upon request

PFM25L Model

Options:

Description	Suffix
Two conduit/cable glands of	
ike thread installed	S886
Diffused glass lens	S891
Polycarbonate lens	S903

Accessories:

Description Bolt-on visor	Cat. # (Sold Separately)
(sold separately)	DSV1
(sold separately)	P61
(sold separately) Slipfitter wall mount adapter	SFA6*
(sold separately)* *Available with PFM25L model only.	SWB6*

Drivers:

PFM	Model	25L, 50L	
		00 005 1/40 5	

/UNV1 90-305 VAC, 50 / 60 Hz; 127-250 VDC /UNV34 277-480 VAC Model

Electrical Ratings:

	PFM25L	PFM50L		
Voltage Denge VAC	120-277V 5	50 / 60 Hz		
Voltage Range, VAC	277-480V 50 / 60 Hz			
Voltage Range, VDC	127-2	127-250V		
Input Power (Nom.)	263	531		
Input Amps (Max.)	2.6	5.2		
Power Factor	>0.	>0.90		

Ordering Information:

25L Series†* 50L Series

PFM25LCY/UNV1 76

PFM50LCY/UNV1 76

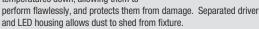
NOTE: Available in cool color temperature only. For 277-480 VAC option, replace /UNV1 with /UNV34.

†DesignLights Consortium® approved model at 120-277V.

*PFM25L is DLC approved with a 5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard terms and conditions.

Safe, reliable heat transfer

The heat sink was designed to perform in high ambient temperatures up to +40°C and as low as -25°C. The thick walls of the castings make for a tough, rugged housing that keeps the internal driver and LED temperatures down, allowing them to





UL/cUL Listed

NEMA 4X

IP66

High efficiency drivers and LEDs provide 100 LPW for reliable low cost operation in industrial environments. Components were chosen to give industry-leading light output from an LED flood. Replaceable drivers and LEDs for ease of maintenance and "no lights out"







Can be used for outdoor or indoor applications, and for a wide range of mounting heights depending on model and light level requirement. Optics were specifically designed to give the familiar and industry-accepted NEMA 7x6 beam light pattern.

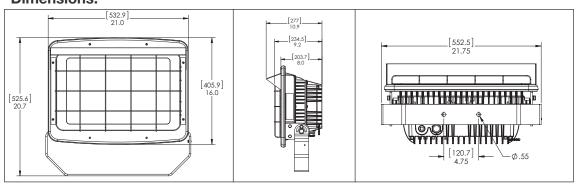


Optional equipment (sold separately)

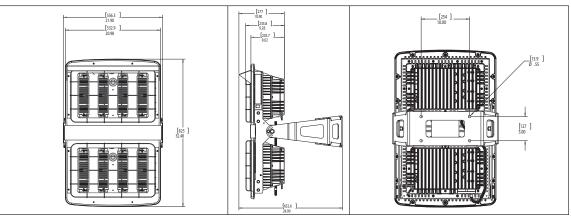
Optional visor offered to control light spill. Optional wire guard offered to protect lens from damage. Other options available - consult part numbering guide.



Dimensions:



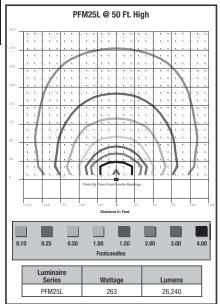
PFM25L Model

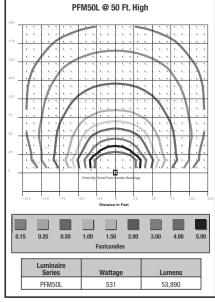


PFM50L Model

Photometric Data:

19





Weights:

PFM Model	Lbs.
	52.00 106.00

The Standard for Safety and Reliability

Whenever Eaton's Crouse-Hinds develops a new product, system, or procedure, we focus on one overriding question: Will it lower the total cost of ownership for our customers?

With our new expanded line of Champ® Floodlights, the answer is most definitely, "Yes."

Eaton's Crouse-Hinds utilized more than 100 years of hazardous lighting expertise to design a global floodlight line of unmatched reliability, quality, and performance for your area lighting needs.

- Energy-efficient with optimal light output and beam distribution
- The most accessible ballast assembly in the industry
- Restricted breathing is standard on all floodlights
- Offered with both North American ballast (made to ANSI standard) and European style IEC ballast gear (pending)
- UL marine rated, NEMA Type 4X and IP66







Champ FMV nR Series Floodlight

The Champ FMV nR Series Floodlight offers exceptional indoor and outdoor illumination in industrial areas. Because of its superior corrosion resistance and restricted breathing being standard, the FMV floodlight is the ideal choice for diverse industrial applications that include wet and marine environments.

Differentiations:

- Full frame trunnion mounting bracket
- · Restricted breathing standard
- 55°C and 65°C ambient air suitability
- Standard with terminal blocks
- Class I, Division 2/Zone 2
- · Removable ballast tray

Champ F2MV Mini-Floodlight

The F2MV is a compact floodlight that consists of a Corro-Free™ epoxy coated copper-free aluminum enclosure with stainless steel external hardware and an impact-resistant glass lens. It is suitable for marine and wet locations and is ideal where space constraints restrict the use of larger floodlights.

Differentiations:

- Small, compact size
- Easy mounting installation—only 2 bolts!
- Powerful light distribution for floodlight and task applications
- Rated for use in 65°C ambient air for hazardous location applications

The Standard for Safety and Reliability



Champ FMV1000 nR High Wattage Floodlight

The Champ FMV1000 nR prides itself on offering restricted breathing and easy-to-wire terminal blocks as standard components. It is NEMA Type 4X and IP56 watertight and due to its heavy-duty vaportight, copper-free aluminum housing and stainless steel hardware, it is exclusively designed for harsh and industrial areas requiring broad area lighting. The Champ FMV1000 nR provides a robust design for optimal use in the most corrosive/marine environments.

Differentiations:

- Hazardous location high wattage floodlight for Class I, Division 2, Zone 2
- Restricted breathing standard
- T3 rating in Class I, Zone 2
- 40°C and 55°C ambient air suitability
- · Hinged removable door
- Available in 600, 750, 1000, and 1500W systems (1500W for non-hazardous locations only)



Champ Voyager nR[™] Stainless Steel Floodlight

The Champ Voyager nR Floodlight offers the industry's coolest temperature rating and is the only mogul-base Class I, Division 2 and Zone 2 stainless steel floodlight with restricted breathing as standard construction. It boasts a wide, powerful beam to deliver more light to your process, and with the standard terminal block and removable ballast-component tray, the Champ Voyager is perfect for outdoor, marine, corrosive, and high temperature locations.

Differentiations:

- Housing, door and external parts are all 316 stainless steel
- Restricted breathing standard with T-ratings of T3 and T4
- Pre-wired with terminal blocks for easy wiring
- · Hinged door and removable ballast tray

Product Selector Chart		F2MV MINI	FMV nR	FMV1000 nR	Voyager nR
Hazardous	Class I, Division 2 Class I, Zone 2	•	•	•	•
Hazardous Restricted Breathing (Ex nR)	NEC/CEC: Class I, Division 2 Class I, Zone 2 IEC Zone 2	•	•	•	•
ATEX Certification with IEC Ballast and Lamp Socket	IEC Zone 2 Ex nR II ATEX		pending		•
Wet		•	•	•	•
Marine		•	•	•	•
NEMA Type 4, 4X		•	•	•	•
NEMA 7x6		•	•	•	•
Corrosion Resistant		•	•	•	•
Confined Areas		•			•
Wattage	High Pressure Sodium Metal Halide	50–150 70–175	150–400 175–400	600, 750, 1000 1000, 1500	150–400 175–400

Champ® FMV nR Floodlights

CI. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, AEx nR II CI. II, Div. 1, Groups F, G (up to 250W) Marine locations NEMA Type 4X and IP66 Wet locations

The Champ FMV nR Series Floodlight offers exceptional illumination in industrial areas, both indoors and out. And, it comes standard as a restricted breathing luminaire. The Champ FMV nR Series Floodlight is easily adjusted to aim light where it's needed and is available in a wide variety of energy-saving mogul base HID light sources and wattages including:

- 150-400W High Pressure Sodium
- 175-400W Metal Halide

Applications:

The FMV is made with heavy-duty, diecast aluminum components and stainless steel hardware. It offers superior corrosion resistance to ensure longer life, which makes the FMV floodlight the ideal choice for a wide variety of industrial applications, including wet and marine environments.

Features and Benefits:

- AEx nR, Ex nR restricted breathing rating is standard—a hazardous location luminaire without additional accessories or options; restricted breathing offers cooler T-numbers for increased hazardous locations suitability
- NEMA 7x6 butterfly beam floodlight pattern—wide, uniform and far reaching to provide excellent efficiency and more light where you need it
- NEMA Type 4X and IP66 construction is designed for use indoors and outdoors in marine and wet locations—with stainless steel external hardware suitable for saltwater and corrosive applications
- Easy wiring—standard terminal block with marked terminals saves time and eliminates wiring errors
- Vapor-tight sealing cable connector standard
- Will accommodate existing mounting hardware—SFA6 slipfitter for pole and SWB6 wall mount
- Optional metric machining will accept M20 or M25 (must be specified on order)
- 40°C, 55°C and 65°C ambient suitability—addresses high ambients common at industrial facilities
- Low ambient capability to -40°C perfect for colder climates
- Heavy-duty, die-cast copper-free aluminum enclosure with epoxy coating and stainless steel hardware—provides a robust design with industrial grade construction and corrosion resistance
- Hinged door frame assembly—has captive cover screws for ease of relamping
- Yoke mount design—standard construction provides the greatest mounting flexibility, can be mounted vertically (wall), horizontally (rooftop or floor), or any angle in between

- 3-axis resonance withstand and UL844 vibration compliant—can stand up to the tough jobs
- Precision formed aluminum reflector superior beam control, distribution and efficiency
- Multi-tap ballasts—offering a choice of 120, 208, 240 and 277V; 220V 50Hz, 240V 50Hz, Tri-Tap (120, 277 and 347), and 480V ballasts are also available
- High light output with a low cost of operation—cost-effectiveness in a high wattage floodlight
- For use with SFA6 Slipfitter Adapter and SWB6 Wall Mount Bracket accessories—further enhances mounting flexibility

Certifications & Compliances:

NEC/CEC (NEC Ballast Gear and Socket):

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, AEx nR II
- Class II, Division 1, Groups F, G (up to 250W)
- Marine locations
- NEMA Type 4X and IP66
- Wet locations

IEC (IEC Ballast Gear and Socket):

• IEC Zone 2, Ex nR II (pending)

UL/cUL Standards:

- 844—Hazardous (Divisions Classified) Locations
- 60079-15
- 1598-Luminaires
- 1598A—Supplemental Requirements for Luminaires for Installation on Marine Vessels

IEC Standards:

• 60079-15

Standard Materials:

- Fixture housing and door frame assembly—die-cast aluminum
- External hardware—stainless steel
- Lens—heat- and impact-resistant tempered glass
- Yoke-aluminum

Standard Finishes:

- Enclosure and yoke—Corro-Free[™] epoxy powder coat
- Stainless steel—natural



The only full frame trunnion mount floodlight with a T3 rating and a removable ballast tray assembly.



Industry Best for Ease of Installation:

- 1. Removable ballast tray
- Prewired to terminal blocks
 Substantial room for wiring
- Ratings (Electrical/Size):

Sources/Wattages (Mogul Base Lamps)

- HPS-150, 250, and 400W
- MH-175, 250, and 400W

Voltages Standard Voltage Ballasts

- Multi-tap (120, 208, 240, and 277V
- Dual-tap (120 and 277V)
- 480V 60Hz
- Tri-tap (120, 277, 347V 60Hz)

Optional Voltage Ballasts

- 220V or 240V 50Hz (for export)
- 220V 60Hz (for export)

Isolated Ballasts

• 208, 240, or 480V (for Canada)

Hub Size

- Standard—3/4" NPT
- Optional—25 mm (M25 x 1.5) or 20 mm (M20 x 1.5)

CI. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, AEx nR II

Marine locations NEMA Type 4X and IP66 Wet locations

Isofootcandle Chart FMV

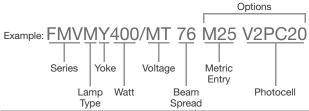
Ordering Information for Floodlight with NEC Ballast:

Lamp Type	Watts	Yoke Mount 3/4" NPT Hub
	150	FMVSY150/MT 76
High Pressure Sodium	250	FMVSY250/MT 76
	400	FMVSY400/MT 76
	175	FMVMY175/MT 76
Metal Halide	250	FMVMY250/MT 76
	400	FMVMY400/MT 76

Voltage Suffixes†

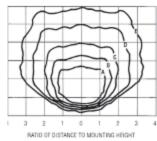
Voltage (60Hz)	Dual-Tap	Tri-Tap	Multi-Tap	480
Suffix	/DT	/TT	/MT	/480

To complete catalog number, add voltage and options suffix(es).



†150W HPS fixtures are furnished with ANSI spec/S55 ballasts for 55V lamps. For 100V lamps, add suffix "CE" after voltage suffix. Example: FMVSY150/MT CE 76.

Photometric Data:

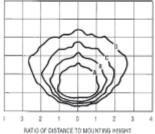


400W High Pressure Sodium (HPS)
Catalog Number: FMVSY400-76
Lamp: 400W Clear HPS
Lumen Rating: 50,000
For 150W HPS, multiply
footcandles by .32.
For 250W HPS, multiply
footcandles by 0.6.

(Note: See Figures 1 and 2).

Fixture located at 0°, 0°

aiming angle at 45°



Isofootcandle Chart FMV
400W Metal Halide (MH)
Catalog Number: FMVMY400-76
Lamp: 400W Clear MH
Lumen Rating: 34,000
For 250W MH, multiply
footcandles by 0.6.
Fixture located a 0°, 0°
aiming angle 45°

(Note: See Figures 1 and 2).

Options:

Description

Instant Restrike and Ballast Guard

Instant restrike—enables a hot HPS lamp to immediately restrike after a momentary loss of arc due to voltage fluctuation or power outage

Ballast guard starter cut out switch—prevents starter pulsing when lamp is cycling or inoperative; prolongs ballast and ignitor life.

• 150W LX HPS only	TIR
Factory assembled with HID lamp installed	FA
Fused (not suitable for marine applications)	S658
20mm metric thread for conduit opening	M20
25mm metric thread for conduit opening	M25
3/4" NPT hub conduit opening	NPT75
Furnished with lamps (not installed)	S714
Retention chain	S831
Pulse-Start Metal Halide	S828
Enclosure machined for 2 conduit/cable entries	S886

Options for Photocell*:

Description	Suffix
Photocell 120V, 50/60Hz installed	V2PC20
Photocell 208-240V, 50/60Hz installed	V2PC22
Photocell 277V, 50/60Hz installed	V2PC27
*Photocell for Div. 2 installation only.	

Accessories (Order Separately):

Slipfitter Adapter

wall mounting and increased adjustability.....

Effective Projected Area (EPA):

For windloading

Suffix

• For proper pole selection

Aiming Angle	EPA	
0°	2.9 FT ²	_
30°	2.5 FT ²	
45°	2.1 FT ²	

Footcandle Table:

Mounting Height

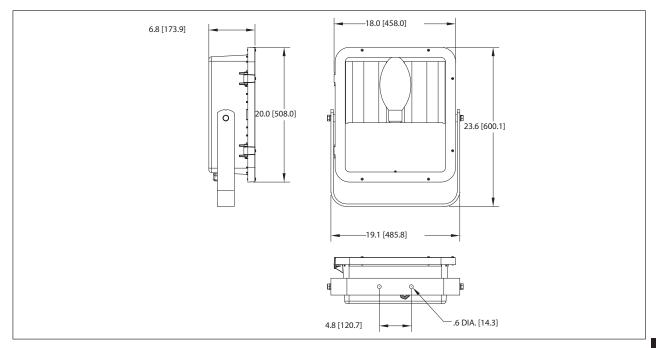
Height	Foo	Footcandle Values for Isofotcandle Lines								
	Α	A B C D E								
15'	8.0	4.0	2.0	0.80	0.40					
20'	4.5	2.3	1.1	0.50	0.23					
25'	2.9	1.4	0.7	0.30	0.14					
30'	2.0	1.0	0.5	0.20	0.10					
35'	1.5	0.7	0.4	0.15	0.07					
40'	1.1	0.6	0.3	0.11	0.06					

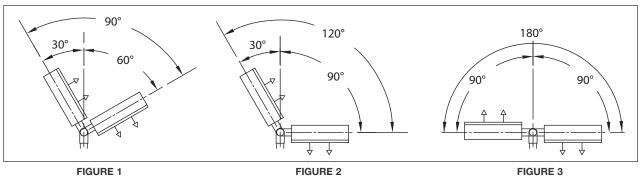
SWB6

Weights and Dimensions: Net Fixture Weights (Lbs.):

Fixtures	FMVS	FMVM
150W	37	37
175–250W	40	42
400W	44	44

SFA6 (Slipfitter Adapter) - Add 4 lbs., SWB6 (Wall Bracket) - Add 6 lbs.





Temperature Performance Data:

			40	0°C Ambie	nt	5	5°C Ambie	nt	6	5°C Ambie	nt		ture ning
	Lan	np	Tem	perature C	ode	Tem	perature C	Code	Tem	perature C	Code	Range	Figure
Catalog Series	Туре	Watts	Class I, Zone 2	Class I, Div. 2	Supply Wire °C	Class I, Zone 2	Class I, Div. 2	Supply Wire °C	Class I, Zone 2	Class I, Div. 2	Supply Wire °C		
			T4	325	90	T4	325	90	T3	325	105	90°	1
		150	T4	325	90	T3	325	105	T3	325	105	120°	2
			T3	325	90	T3	325	105	T3	325	105	180°	3
	High		T4	325	90	T4	325	90	T3	325	105	90°	1
FMVS	Pressure	250	T4	325	90	T3	325	105	T3	325	105	120°	2
	Sodium		Т3	325	90	T3	325	105	T3	325	105	180°	3
			Т3	T1	90	T3	T1	105	_	_	_	90°	1
		400**	T3	T1	105	T3	T1	125	_	_	_	120°	2
			T3	T1	105	T3	T1	125				180°	3
			T4	325	90	T4	325	90	T3	325	105	90°	1
		175	T4	325	90	T4	325	105	T3	325	105	120°	2
			T3	350	90	T3	350	125	T3	T1	105	180°	3
	Metal	050*	T4	325	90	T4	325	90	T3	325	105	90°	1
	Halide	250*	T4	325	90	T4	325	105	T3	325	105	120°	2
			T3	350	90	T3	350	125	T3	T1	105	180°	3
		400**	T3 T3	325	90	T3 T3	325	105	_	-	_	90°	I
		400	T3	325 T1	105	T2	325 T1	125 125	_	-	-	120° 180°	2
FMVM			T4	325	105 90	T3	325	105	 T3	325	105	90°	1
		175	T4	325 325	90	T3	325	105	T3	325	105	120°	2
		173	T3	350	90	T3	323 T1	105	T3	323 T1	105	180°	3
	Pulse-		T4	325	90	T3	325	105	T3	325	105	90°	1
	Start	250*	T4	325	90	T3	325	105	T3	325	105	120°	2
	Metal	200	T3	350	90	T3	323 T1	105	T3	323 T1	105	180°	3
	Halide	320**	T3	350	105	T3	350	105		_	-	90°	1
		350**	T3	350	105	T3	T1	125	_	_	_	120°	2
		400**	T3	T1	105	T3	T1	125	_	_	_	180°	3

Lamp Selection (Mogul Base):

-	Watts	-			
Fixture	Туре	Bulb	G.E.	Osram	Philips
FMVSY150	150 HPS	ED23 1/2 BT25	LU150/55	LU150/55	C150S55
FMVSY250	250 HPS	ED18 1/2 or ET18	LU250	LU250	C250S50
FMVSY400	400 HPS	ED37 1/2 BT37	LU400	LU400	C400S51
FMVMY175	175 MH	ED28 or BT28	MVR175/U	M175/U	MH175/U
FMVMY250	250 MH	ED28 or BT28	MVR250/U	M250/U	MH250/U
FMVMY400	400 MH	ED37 or BT37	MVR400/U	M400/U	MH400/U

Photometrics are available online.

9

^{*}Suitable for use in 65°C ambient without optional fuses. **Suitable for use in 55°C ambient without optional fuses.

Champ® FMV1000 nR High Wattage Floodlights

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, AEx nR II, Group IIC Marine locations
NEMA Type 4X and IP56
Wet locations

The Champ FMV1000 Series High Wattage Floodlight is the best in its class with heavy-duty vapor-tight housing designed exclusively for harsh industrial areas requiring broad area lighting.

The FMV1000 Series Floodlight boasts restricted breathing and easy-to-wire terminal blocks as standard. It is available in the following HID lamp sources and wattages:

- 600, 750, 1000W High Pressure Sodium
- 1000, 1500W Metal Halide

Applications:

The Champ FMV1000 Series is NEMA Type 4X and IP56 watertight, and its heavy-duty welded extruded aluminum housing and stainless steel hardware provide a robust design suitable for the most corrosive/marine environments.

Features and Benefits:

- AEx nR, Ex nR restricted breathing rating is standard—a
 hazardous location luminaire without additional accessories or
 options; restricted breathing offers cooler T-numbers for increased
 hazardous locations suitability
- NEMA 7x6 butterfly beam floodlight pattern—wide, uniform and far reaching to provide excellent efficiency and more light where you need it
- NEMA Type 4X and IP56 construction is designed for use indoors and outdoors in marine and wet locations—with stainless steel external hardware suitable for saltwater and corrosive applications
- Easy wiring—standard terminal block with marked terminals saves time and eliminates wiring errors
- Vapor-tight sealing cable connector-standard
- Standard machining—will accept ¾ inch NCGB or ¾ inch Myers™ hub (Myers hub is an option). Optional metric machining will accept M20 or M25 (must be specified on order)
- Low and high ambient capability to -40°C—perfect for colder climates, 50°C workhorse in hot climates
- Heavy-duty, extruded copper-free aluminum enclosure with epoxy coating and stainless steel hardware—provides a robust design with industrial grade construction and corrosion resistance
- Precision formed aluminum reflector—superior beam control, distribution and efficiency
- High light output with a low cost of operation—cost-effectiveness in a high wattage floodlight

Certifications & Compliances:

NEC/CEC (NEC Ballast Gear and Socket):

- Class I, Division 2, Groups A, B, C, D
- Class I. Zone 2. AEx nR II. Group IIC
- Marine locations
- IP56
- Wet locations
- NEMA Type 4X

Standard Materials:

- Housing-extruded aluminum
- External hardware-stainless steel
- Yoke-316 stainless steel
- Lens-heat- and impact-resistant tempered glass
- Gasketing-neoprene



Restricted breathing comes standard with this NEMA Type 4X and IP56 rated floodlight.



Industry Best for Ease of Installation:

- 1. Removable ballast tray
- 2. Prewired to terminal blocks
- 3. Substantial room for wiring

Standard Finishes:

- Aluminum—Corro-Free[™] epoxy powder coat
- Stainless steel-natural

Ratings (Electrical/Size):

Sources/Wattages (Mogul Base Lamps)

- HPS-600, 750, and 1000W
- MH-1000W
- MH-1500W non-hazardous location rated

Voltages:

Standard Voltage Ballasts

- Multi-tap (120, 208, 240, and 277V 60Hz)
- 480V 60Hz
- Tri-tap (120, 277, 347V 60Hz)

Optional Voltage Ballasts

- 220V or 240V 50Hz (for export)
- 220V 60Hz (for export)

Isolated Ballasts

• 208, 240, or 480V (for Canada)

Hub Size:

- 3/4" NPT-standard
- M20 or M25-optional
- Dual entry-NPT or metric

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, AEx nR II, Group IIC Marine locations NEMA Type 4X and IP56 Wet locations

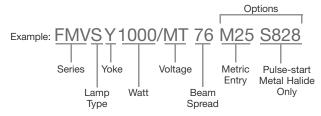
Ordering Information for Floodlight with NEC Ballast:

Lamp Type	Watts	Base Catalog Number*				
	600	FMVSY600 76				
High Pressure Sodium	750	FMVSY75076				
	1000	FMVSY1000 76				
Metal Halide	1000	FMVMY1000 76				
Metal Hallde	1500	FMVMY1500 76				

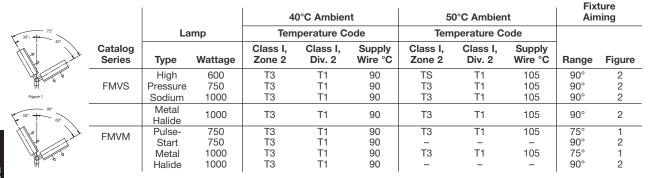
^{*}To complete catalog number, add voltage and options suffix(es).

Voltage Suffixes:

Voltage (60Hz)	Dual-Tap	Tri-Tap	Multi-Tap	480
Suffix	/DT	/TT	/MT	/480



Temperature Performance Data:



Accessories (Order Separately):

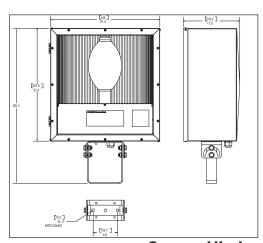
Options:

Description	Suffix
20mm metric thread for conduit opening	M20
25mm metric thread for conduit opening	M25
3/4" NPT hub conduit opening	
Pulse-start metal halide only	
Retention chain	S831
Enclosure machined for 2 conduit/cable entriesFactory assembled, lamp installed in lampholder	

Weights and Dimensions:

Net Fixture Weights (Lbs.):

Fixture Series	
FMVSY600	78
FMVSY750	76
FMVSY1000	83
FMVMY1000	76
FMVMY1500	84



Crouse-Hinds

Champ® FMV1000 nR High Wattage Floodlights

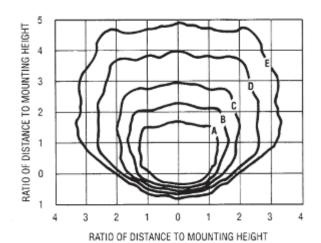
Effective Projected Area (EPA):

- For windloading
- For proper pole selection

Aiming Angle	EPA	
0°	3.5 FT ²	
30°	3.6 FT ²	
60°	2.9 FT ²	

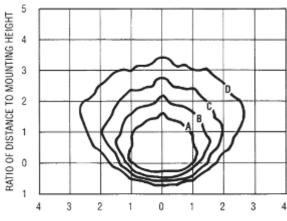
Photometric Data:

ISO Footcandle Chart FMV 1000W High Pressure Sodium (HPS) Catalog Number: FMVSY1000-76 Lamp: 1000W Clear HPS Lumen Rating: 140,000 Fixture located at 0°, 0° aiming angle at 45° (Note: See Figures 1 and 2).



ISO Footcandle Chart FMV 1000W Metal Halide (MH)
Catalog Number: FMVMY1000-76 Lamp: 1000W Clear MH Lumen Rating: 110,000 For 1500W MH, multiply footcandles by 1.4

Fixture located a 0°, 0° aiming angle at 45° (Note: See Figures 1 and 2).



RATIO OF DISTANCE TO MOUNTING HEIGHT

Footcandle Table for FMVS1000W:

Footcandle Values for Isofootcandle Lines

Cl. I, Div. 2, Groups A, B, C, D

CI. I, Zone 2, AEx nR II, Group IIC

Mounting Height	A	В	С	D	E
20'	12.6	6.4	3.1	1.4	0.64
25'	8.1	3.9	2.0	0.8	0.4
30'	5.6	2.8	1.4	0.6	2.8
35'	4.2	2.1	1.0	0.42	0.2
40'	3.1	1.6	0.8	0.32	0.17

Lamp Selection (Mogul Base):

Fixture	Watts Type	Bulb	G.E.	Osram	Philips
FMVSY600	600 HPS	T15	LU600/T	_	C600S106
FMVSY750	750 HPS	ED37	LU750	_	_
FMVSY1000	1000 HPS	E25	LU1000	_	C1000S52/ED37
FMVMY750	750 MH	ED37	MVR750/VBU/PA	_	_
FMVMY1000	1000 MH	BT56	MVR1000/U	_	MH1000/U
FMVMY1500	1500 MH	BT56	MVR1500/U/SPORTS	_	MH1500/U

Cl. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, AEx nR II, Group IIC IEC Zone 2, Ex nR II ATEX

Marine locations Wet locations

Eaton's Crouse-Hinds Champ® Voyager nR™ Stainless Steel Floodlight offers the industry's coolest temperature ratings—so it can operate below the ignition temperature of vapors and gases in your classified area. The Champ Voyager nR Floodlight boasts a wide, powerful beam to deliver more light to your process or pathway. Standard terminal blocks and a removable ballast component tray bring you the best combination of easy wiring and simple maintenance in one rugged package.

Applications:

This unique combination of features makes the Champ Voyager nR Floodlight ideal for outdoor, marine, corrosive, and high temperature locations.

And because the Champ Voyager nR Floodlight meets international standards, you can install it anywhere in the world.

Features and Benefits:

- AEx nR, Ex nR restricted breathing rating is standard—a hazardous location luminaire with excellent T3 and T4 ratings without additional accessories or options
- NEMA 7x6 "butterfly beam" floodlight pattern—wide, uniform and far reaching to reduce the number of luminaires you need, providing excellent luminaire efficiency-more light where you
- Easy wiring-standard terminal block with marked terminals saves time and eliminates wiring errors
- · Removable ballast component tray-for capacitor, igniter and terminal block to simplify maintenance and save money
- Housing, hinges, door frame and mounting yoke are all 316 stainless steel for marine and wet locations-robust construction suitable for saltwater and corrosive applications

Certifications & Compliances:

NEC/CEC (NEC Ballast Gear and Socket):

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, AEx nR II, Group IIC
- NEMA Type 4X and IP66

IEC (IEC Ballast Gear and Socket):

• IEC Zone 2, Ex nR II ATEX

UL/cUL Standards:

- 844-Hazardous (Divisions Classified) Locations
- 1598-Luminaires Marine Locations
- 1598A—Supplemental Requirements for Luminaires for Installation on Marine Vessels

Standard Materials:

- Enclosure (housing and lens frame) 316 stainless steel
- Lens-heat- and impact-resistant tempered glass
- Gaskets-silicone rubber
- Yoke and yoke bracket-316 stainless steel
- Reflector-formed specular (dimpled glossy surface) aluminum
- Cable gland cord grip and locknut-polyamide 6, neoprene bushina

Standard Finishes:

316 stainless steel—natural

Now available with IEC gear and certified to the IECEx/ATEX Directive.

The only mogul base Class I, Division 2 and Zone 2 stainless steel floodlight with restricted breathing (vapor-tight design) as standard construction.



Industry Best for Ease of Installation:

- 1. Removable ballast tray
- 2. Prewired to terminal blocks
- 3. Substantial room for wiring

Ratings (Electrical/Size):

Sources/Wattages (Mogul Base Lamps)

- High Pressure Sodium (HPS) 150, 250, and 400W
- Metal Halide (MH) 175, 250, and 400W

Voltages:

Standard Voltage Ballasts

- Multi-tap (120, 208, 240, and 277V 60Hz)
- 480V. 60Hz
- Tri-tap (120, 277, 347V 60Hz)

Optional Voltage Ballasts (for export)

- 220V or 240V. 50Hz
- 220V, 60Hz

Isolated Ballasts

• 208, 240, or 480V (for Canada)

Hub Size:

• Standard: 3/4" NPT with a 3/4" gland sealing connector

Champ® Voyager nR™ Stainless Steel Floodlight

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, AEx nR II, Group IIC IEC Zone 2, Ex nR II ATEX

Ordering Information for Floodlight with IEC Ballast:

Lamp Type	IEC Ref.	Watts	Catalog Number*
		150	NSSFMVSY150/220
HPS	HSE/HST	250	NSSFMVSY250/220
		400	NSSFMVSY400/220
		150	NSSFMVMY150/220
MH	HIE	250	NSSFMVMY250/220
		400	NSSFMVMY400/220

^{*}Uses IEC lamp socket E40.

NSSFMV Floodlights are designed with IEC ballast gear and lamp socket, providing certification to the IEC Ex ATEX Directive.

Ordering Information for Floodlight with NEC Ballast:

Lamp Type	Watts	Catalog Number*
High	150	SSFMVSY150 76
Pressure	250	SSFMVSY250 76
Sodium	400	SSFMVSY400 76
Metal	175	SSFMVMY175 76
Halide	250	SSFMVMY250 76
Hallue	400	SSFMVMY400 76

Voltage Suffixes:

Voltage	Suffix	Voltage	Suffix
Tri-Tap (120, 277, 347V, 60Hz)	/11	220 50Hz	/220 50
Multi-Tap 120, 208, 240, 277V, 60Hz)	/MT	220 60Hz	/220
480V, 60Hz 240V, 60Hz	/480 /MV	240 50Hz 240 60Hz	/240 50 /240 60

^{*}To complete catalog number, add voltage and options suffix(es) Example: SSFMVSY150/MT 76.

Temperature Performance Data:

•				40°C Ambier	nt		55°C Ambie	ent		
	Lam	р	Temperature Code		1	Temperature Code		Fixture Aiming		
Catalog Series	Туре	Watts	Class I, Zone 2	Class I, Div. 2	Supply Wire °C	Class I, Zone 2	Class I, Div. 2	Supply Wire °C	Range	Figure
SSFMVS	High Pressure Sodium	150** 250** 400	T4 T4 T3	T2B 350 T1	90 90 90	T4 T3 -	T2B 350 -	105 105 -	120° 90° 90°	2 1 1
SSFMVM	Metal Halide	175** 250** 400	T3 T3 T3	T2 325 325	90 90 105	T3 T3 -	T2 325 -	105 105 -	120° 90° 90°	2 1 1

^{**}Suitable for use in 55°C ambient without optional fuses. For U.S. market, use MH Pulse Start option.

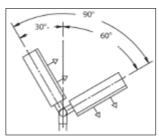
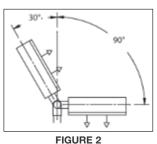


FIGURE 1



Accessories (Order Separately):

Stainless steel slipfitter adapter	SFA6 SS
Stainless steel wall mount bracket	SWB6 SS
Standard slipfitter adapter (cast aluminum)	SFA6
Standard wall mount bracket (cast aluminum)	SWB6
Photocell in DS cover for use with FS/FD box: 120V, 50/60Hz	D2S20
208-277V, 50/60Hz	D2S208 277

CI. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, AEx nR II, Group IIC IEC Zone 2, Ex nR II ATEX

Marine locations Wet locations

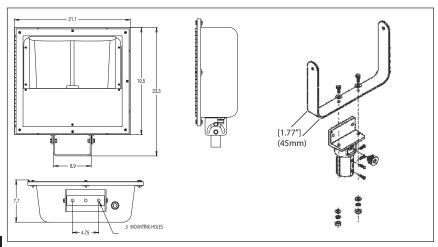
Effective Projected Area (EPA):

- For windloading
- For proper pole selection

Aiming Angle	EPA
0°	2.15 FT ²
30°	1.86 FT ²
60°	1.07 FT ²

Weights and Dimensions: Net Fixture Weights (Lbs.)

Luminaire	HPS	МН
150W	39	39
175W	39	39
250W	43	41
400W	45	43



Ontions

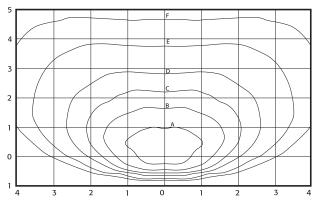
Options:	
Description	Suffix
Instant Restrike and Ballast Guard	
Instant Restrike – enables a hot HPS lamp to immediately restrike after a momentary	
loss of arc due to voltage fluctuation or power outage	
Ballast guard starter cut out switch—prevents starter pulsing when lamp is cycling	
or inoperative; prolongs ballast and ignitor life	TIR
• 150W LX HPS only	
Factory assembled with HID lamp installed	FA
Factory assembled with HID lamp installed	S658
20mm metric thread for conduit opening	M20
25mm metric thread for conduit opening	M25
3/4" NPT hub conduit opening	NPT75
Furnished with lamps (not installed)	S714
20mm metric thread for conduit opening. 25mm metric thread for conduit opening. ½" NPT hub conduit opening	S828
Enclosure machined for 2 conduit/cable entries	S886
Yoke mount and slipfitter	SFA6

Champ[®] Voyager nR[™] Stainless Steel Floodlight

Cl. I, Div. 2, Groups A, B, C, D CI. I, Zone 2, AEx nR II, Group IIC IEC Zone 2, Ex nR II ATEX

Photometric Data:

MH Wide Beam Reflector



LUMINAIRE IS LOCATED AT 0,0 AND AIMED 45 DEGREES DOWN FROM HORIZONTAL

ISOFOOTCANDLE CHART 400W Metal Halide (MH)

Catalog Number: SSFMVMY400/MT Lamp: 400W Clear MH

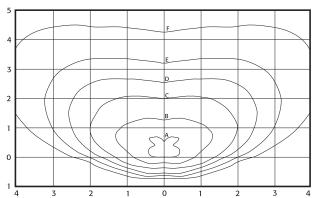
Lumen Rating: 34,000

Luminaire located at 0, 0° aiming angle at 45° down from

horizontal

For 175W MH, multiply footcandles by 0.42. For 250W HPS, multiply footcandles by 0.65.

HPS Wide Beam Reflector



LUMINAIRE IS LOCATED AT 0,0 AND AIMED 45 DEGREES DOWN FROM HORIZONTAL

ISOFOOTCANDLE CHART 400W High Pressure Sodium (HPS) Catalog Number: SSFMVSY400/MT

Lamp: 400W Clear HPS

Lumen Rating: 50,000

Luminaire located at 0, 0° aiming angle at 45° down from

horizontal

For 150W HPS, multiply footcandles by 0.32. For 250W HPS, multiply footcandles by 0.57.

Mounting Height	Footcandle Val	ues for Isofootcandle L	ines			
	A	В	С	D	E	F
10'	20.000	39.000	4.000	2.000	0.800	0.400
15'	8.889	3.555	1.778	0.889	0.356	0.178
20'	5.000	2.000	1.000	0.500	0.200	0.100
25'	3.200	1.280	0.640	0.320	0.128	0.064
30'	2.222	0.889	0.444	0.222	0.089	0.044
35'	1.633	0.653	0.327	0.163	0.065	0.033
40'	1.250	0.500	0.250	0.125	0.050	0.025

Mounting Height	Footcandle Val	ues for Isofootcandle L	ines			
	A	В	С	D	E	F
10'	40.000	20.000	8.000	4.000	2.000	0.800
15'	17.778	8.889	3.555	1.778	0.889	0.356
20'	10.000	5.000	2.000	1.000	0.500	0.200
25'	6.400	3.200	1.280	0.640	0.320	0.128
30'	4.444	2.222	0.889	0.444	0.222	0.089
35'	3.265	1.633	0.653	0.327	0.163	0.065
40'	2.500	1.250	0.500	0.250	0.125	0.050
Photometrics ar	e available online.					

Champ® FMV LED Series Floodlight Fixtures

Cl. I, Zone 2 Cl. II, Groups E, F, G

Cl. I, Div. 2, Groups A, B, C, D UL Listed & CSA Certified IECEx / ATEX Simultaneous Presence Wet Location, Type 4X, IP66

The Champ FMV **LED Family**

FMV LED Series Floodlights are designed to provide full-spectrum, crisp, white light. Five versions of the Champ FMV LED are available, providing ideal solutions for a wide range of applications.

FMV	Equivalent MH	Energy
Model	HID Lamp	Savings
FMV 5L FMV 7L FMV 9L FMV 11L FMV 13I	100W-150W 150W-175W 175W-250W 250W-400W	

Applications:

- · Five lumen outputs allow for installation in numerous mounting heights
- · Locations requiring continuous and consistent light levels in extreme ambient temperatures
- · Areas requiring frequent on-and-off of lights
- · Where flammable vapors, gases, ignitable dusts, fibers or flyings are present; indoors or outdoors
- · Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations, and hose-down environments
- Indoor and outdoor area lighting in plants, buildings, and parking areas
- Manufacturing plants; heavy industrial, chemical, petrochemical or pharmaceutical facilities; platforms; loading docks; outdoor mounted general area lighting

Drivers:

6

Model	5L - 13L
Standard	90-305 VAC, 50 / 60 Hz; 108-250 VDC
Option 1	347 VAC Model
Option 2	480 VAC Model

Champ FMV LED Benefits: Enhance safety and productivity

- · Instant illumination and restrike
- · Better visibility with crisp, white light
- Minimum T4 temperature rating safely operate in the most hazardous environments and any non-hazardous
- Cold temperature operation / no warm-up

• "No lights out" feature - if a single LED fails, others will remain lit from other drivers - minimum 50% output maintained

Terminals – 3 x 6 sq. mm. for IEC version

CI. III

Reduce operation and maintenance costs

- Easy installation compact modular fixture attaches onto existing SFA6 and SWB6
- Energy-efficient technology use up to ½ the power of standard HID luminaires
- Provides up to 60,000 hours rated life eliminates need for frequent lamp replacement
- · Contains no mercury or other hazardous substances

Reliable performance in any environment

- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break - greatly reduces the risk of premature failure
- Operating ambient -40°C to 55°C
- · Dark sky friendly with optional visor

Certifications and Compliances:

· DesignLights Consortium® approved for select models (refer to Ordering Information for details)

NEC and CEC

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2
- Class II, Groups E, F, G
- Simultaneous Presence
- Wet Locations, Type 4X, IP66

UL Standards

- UI 844
- UL1598 Luminaires, UL1598A Marine

CSA Standard

• CSA C22.2 No. 137

IECEx/ATEX

- IECEx UL 11.0054X
- Ex nA nR IIC T4 Gc Tamb -30°C to +55°C
- Ex nA nR IIC T5 Gc Tamb -30°C to +40°C
- Ex tc IIIC T68°C Dc IP66 Tamb -30°C to 40°C
- DEMKO 12 ATEX 115535X
- Ex II 3 G Ex nA nR IIC T4 Gc Tamb -30°C to
- Ex II 3 G Ex nA nR IIC T5 Gc Tamb -30°C to
- Ex II 3 D Ex tc IIIC T68°C Dc IP66 Tamb -30°C to +40°C
- CEPEL Ex-1956/10



Standard Materials:

- Housing copper-free aluminum with Corro-free™ epoxy powder coat
- Lens shatter-resistant glass
- · Gaskets silicone
- External hardware stainless steel
- · Factory-sealed, no external seals required

LED System:

- · High brightness light emitting diode (LED) arravs
- Color temperature: 3000K (CRI 82) and 5600K (CRI 65) options available
- Advanced heat sink design ensures LED does not exceed manufacturer's temperature ratings across all specified ambient conditions
- LM-80 reports available upon request

Options:

Description	Suffix
Fused (only applies to	
UNV1 model, not available	
for 347V or 480V;	
NOT marine or cUL Listed)	
(NEC version only)	S658
Two conduit/cable glands of	
like thread installed	S886

Accessories (Order Separately):

Description	Cat. No
Bolt-on visor	
(sold separately)	DSV1
Bolt-on wire guard	
(sold separately)	P61
Floodlight slipfitter	
(sold separately)	SFA6
Slipfitter wall mount adapter	
(sold separately)	SWB6

Electrical Ratings:

	FMV 5L	FMV 7L	FMV 9L	FMV 11L	FMV 13L
Valtaria Barria VAC			100-277V 50	/ 60 Hz	
Voltage Range, VAC			347 / 480V	60 Hz	
Voltage Range, VDC	108-250	108-250	108-250	108-250	108-250
Input Power (Nom.)	64	89	121	149	179
Input Amps (Max.)	0.550	0.800	1.083	1.608	1.608
Power Factor	\n 85	<u></u>	\n 85	\n 85	>0.85

Champ® FMV LED Series Floodlight Fixtures

Cl. I, Zone 2 Cl. II, Groups E, F, G CI. III

Cl. I, Div. 2, Groups A, B, C, D UL Listed & CSA Certified IECEx / ATEX Simultaneous Presence Wet Location, Type 4X, IP66

Safe, reliable heat transfer

The heat sink was designed to perform in high ambient temperatures up to +55°C and as low as -40°C. The thick walls of the castings make for a tough, rugged housing that keeps the internal driver and LED temperatures down, allowing them to perform flawlessly, and protects them from damage. Separated driver



High efficiency and lumen output

cable entry, if an additional cable gland is needed.

Installation and replacement made simple

The full-frame yoke was designed to utilize the SFA6 slipfitted

and SWB6 wall mount bracket (sold separately), making it

ideal for retrofit or new installations. The modular design of

the FMV LED allows for easy driver or LED replacement, and

allows for the addition of the optional visor or guard in the

field. Single cable gland provided with a second plugged

High efficiency drivers and LED arrays provide reliable low cost operation in harsh and hazardous environments. Components were chosen to give industry-leading light output from an LED flood. Replaceable drivers and LEDs for ease of maintenance and "no lights out" feature.





Versatile design

Suitable for hazardous location use in gas or dust areas. Can be used for outdoor or indoor applications, and for a wide range of mounting heights depending on model and light level requirement. Optics were specifically designed to give the familiar and industry-accepted butterfly beam light pattern.



Optional equipment

Cool (C) and Warm (W) white color temperatures available. Optional visor offered (sold separately) to control light spill. Optional wire guard offered (sold separately) to protect lens from damage. Other options available - consult part numbering guide.

Champ® FMV LED Series Cl. I, Div. 2, Groups A, B, C, D UL Listed & CSA Certified 6L **Floodlight Fixtures**

Cl. I, Zone 2 Cl. II, Groups E, F, G Cl. III

IECEx / ATEX Simultaneous Presence Wet Location, Type 4X, IP66

Catalog Numbering System:

SERIES	LIGHT Source	COLOR	MOUNT	VOLTAGE	OPTICAL DISTRIBUTION	SUFFIXES
FMV	9L	C	Υ	/UNV1	76	S658

SERIES

FMV NEC version with Class/Division ratings NFMV IEC version with Class/Zone ratings

LIGHT SOURCE / INTENSITY

100W - 150W equivalent 7L 150W - 175W equivalent 9L 175W - 250W equivalent 11L 250W - 400W equivalent 13L 400W equivalent

COLOR TEMPERATURE

5600K (cool white) 3000K (warm white)

MOUNT Yoke

VOLTAGE

100 VAC to 277 VAC 50/60 Hz, 108 VDC to 250 VDC /UNV1

/120 120 VAC 50/60 Hz** /347 347 VAC 60 Hz /480 480 VAC 60 Hz

OPTICAL DISTRIBUTION

Floodlight pattern optics included

SUFFIXES

M20 20mm metric threads for conduit opening (NFMV only)*

M25 25mm metric threads for conduit opening (NFMV only)* **S658** Fused; for UNV1 only; not for marine or cUL

S886 Two conduit/cable glands of like thread installed

ADDITIONAL ITEMS (SOLD SEPARATELY)

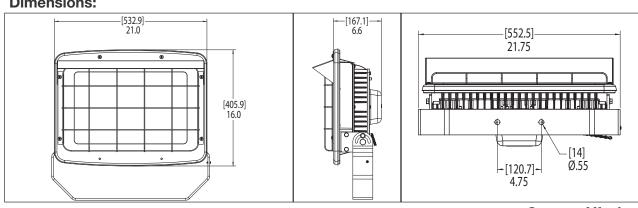
DSV1 DSV dark sky visor

P61 Wire guard factory installed

SFA6 Floodlight slipfitter

SWB6 Slipfitter wall mount adapter

Dimensions:



Crouse-Hinds by **F**:**T·N**

1148

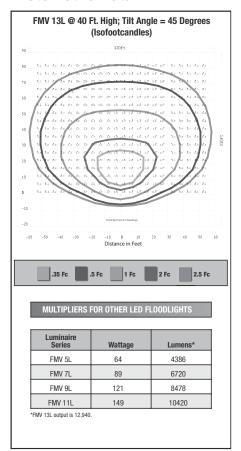
^{*}Required for NFMV. Please specify conduit entry.

^{**5} year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Eaton's Crouse-Hinds standard Terms and Conditions. DesignLights Consortium® approved models. Cool white only.

Cl. I, Div. 2, Groups A, B, C, D $\;\;$ UL Listed & CSA Certified Cl. I, Zone 2 $\;\;$ IECEx / ATEX

Cl. II, Groups E, F, G Cl. III IECEX / ATEX
Simultaneous Presence
Wet Location, Type 4X, IP66

Photometric Data:



Weights:

Model	Lbs.	Kg.
5L	39.11	17.74
7L	39.16	17.76
9L	39.73	18.02
11L	40.35	18.30
13L	40.35	18.30

Ambient Temperature:

	Max. Temp. °C	Cl. I, Div. 2	Cl. I, Zone 2	Simu. Presence Div. 1 and Div. 2	Cl. II, Div. 1	CI. III
ENA) / EL	40	T3C	T5	T3A	T5	T5
FMV 5L	55	T3C	T4	-	-	-
ENAV / 71	40	T3C	T5	T3A	T5	T5
FMV 7L	55	T3C	T4	-	-	-
FMV 7L FMV 9L FMV 11L	40	T3C	T5	T3A	T5	T5
	55	T3C	T4	-	-	-
ENAV 441	40	T3C	T5	T3A	T5	T5
FIVIV IIL	55	T3C	T4	-	-	-
EN4) / 101	40	T3C	T5	T3A	T5	T5
FMV 13L	55	T3C	T4	_	_	_

F2MV is a compact floodlight consisting of a Corro-Free™ epoxy coated copper-free aluminum enclosure, with stainless steel external hardware and impact-resistant glass. It is available for use with the following energy-saving mogul base HID lamp types and wattages:

- High Pressure Sodium (HPS)-50, 70, 100, and 150W
- Metal Halide (MH)-70, 100, and 175W

Applications:

Available in a variety of voltage ratings, this compact floodlight is suitable for marine and wet locations.

Features and Benefits:

- Small, compact size-easy to install and maintain
- 40°C, 55°C, and 65°C ambient suitability—addresses high ambients common in industrial facilities
- Low ambient capability to -40°C perfect for colder climates
- Heavy-duty, copper-free aluminum enclosure with epoxy coating and stainless steel hardware—provides a robust design with industrial grade construction and corrosion resistance
- Continuous silicone gasketing—ensures wet and marine locations integrity
- Stainless steel tether chain and captive cover screws—secure cover to housing ensures ease of maintenance
- Trunnion (yoke) mount design—standard construction provides the greatest mounting flexibility, can be mounted vertically (wall), horizontally (rooftop or floor), or any angle in between
- Requires only two bolts to mount-simplifies installation
- Heat- and impact-resistant tempered glass lens—provides exceptional stability
- Shock-absorbing mogul base lamp socket—cushions lamp, improves lamp life in harsh environments
- 3-axis resonance withstand and UL844 vibration compliant stands up to the tough jobs
- Precision formed aluminum reflector—superior beam control, distribution and efficiency
- NEMA 7x6 floodlight pattern with lamp orientation base down—the ideal light distribution for industrial applications
- Multi-tap ballasts—offering a choice of 120, 208, 240, and 277V; 220V, 50Hz; 240V 50Hz; Tri-Tap (120, 277, and 347) and 480V ballasts are also available
- High light output with a low cost of operation—a cost-effective, high wattage floodlight
- For use with SFA6 slipfitter adapter and SWB6 wall mount bracket accessories—further enhances mounting flexibility
- Restricted breathing compliance—cooler T-numbers for increased hazardous locations suitability

Standard Materials:

- Enclosure (housing and lens cover)—copper-free aluminum
- Cover chain and external hardware-stainless steel
- · Lens-heat- and impact-resistant glass
- Gaskets-silicone rubber
- Yoke-copper-free aluminum
- Reflector-diffused aluminum lighting sheet

Standard Finishes:

- Enclosure and yoke—Corro-Free™ epoxy powder coat
- Stainless steel—natural



Certifications & Compliances:

NEC/CEC:

- Class I, Division 2, Groups A, B, C, D
- · Marine locations
- NEMA Type 4X
- Wet locations

IEC/NEC/CEC:

- Class I, Zone 2, Group IIC
- With suffix—S826 and S826TB—restricted breathing (Ex nR) option
- · Class I. Zone 2
- Class I, Division 2

UL Standards:

- 844-Hazardous (Divisions Classified) Locations
- 2279-Hazardous (Zones Classified) Locations
- 1572-Ordinary and Wet Locations, Marine Outside Type

CSA Standards:

- C22.2 No. 137
- CAN/CSA-E79 Series

IEC Standards:

• 60079-15

Ratings (Electrical/Size):

Sources/Wattages (Mogul Base Lamps)

- HPS-50, 70, 100, and 150W
- MH-70, 100, and 175W

Voltages:

Standard Voltage Ballasts

- Multi-tap (120, 208, 240, and 277V 60Hz)
- Dual-tap (120, 277V 60Hz)—50W HPS only
- 480V 60Hz
- Tri-tap (120, 277, 347V 60Hz)

Optional Voltage Ballasts (Consult Eaton's Crouse-Hinds)

- 220V or 240V 50Hz (for export)
- 220V 60Hz (for export)

Isolated Ballasts (Consult Eaton's Crouse-Hinds)

• 208, 240, or 480V (for Canada)

Hub Size:

- Standard—(2) 3/4" NPT
- Optional—(2) 25 mm (M25 x 1.5) or (2) 20 mm (M20 x 1.5)

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, Group IIC Wet locations

Ordering Information:

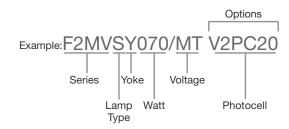
Base	Catalog	Number*
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Lamp Type	Watts	³/₄" NPT Hub	25mm Hub†	
Lliab	50	F2MVSY050_	F2MVS25Y050	
High Pressure Sodium	70	F2MVSY070	F2MVS25Y070	
	100	F2MVSY100	F2MVS25Y100	
	150	F2MVSY150	F2MVS25Y150	
Matal	70	F2MVMY070	F2MVM25Y070	
Metal	100	F2MVMY100	F2MVM25Y100	
Halide	175	F2MVMY175	F2MVM25Y175	

Voltage Suffixes:

Voltage

(60Hz)	Dual-Tap	Tri-Tap	Multi-Tap	480	
Suffix	/DT	/TT	/MT	/480	



Options:

Description Suffix

Instant Restrike and Ballast Guard

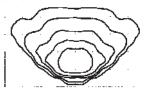
Instant Restrike-enables a hot HPS lamp to immediately restrike after a momentary loss

of arc due to voltage fluctuation or power outage
Ballast guard starter cut out switch—prevents starter pulsing when lamp is cycling

or inoperative; prolongs ballast and ignitor life 150W LX HPS only	TIR
Factory assembled with HID lamp installed	
Fused (not suitable for marine applications)	
Furnished with lamps (not installed)	S714
Pulse-start metal halide only	S828
Photocell 120V, 50/60Hz installed	V2PC20
Photocell 208-240V, 50/60Hz installed.	V2PC22
Photocell 277V, 50/60Hz installed	V2PC27

^{*} To complete catalog number, add voltage and options suffix(es). †For 20mm metric threads, change 25 to 20 in catalog number. Example: F2MVS20Y050/MT.

Photometric Data:



Isofootcandle Chart F2MV 150W High Pressure Sodium (HPS)
Catalog Number: F2MVSY150 Lamp: 150W Clear HPS Lumen Rating: 16,000

For 100W HPS, multiply footcandles by .55. For 70W HPS, multiply footcandles by .40. For 50W HPS, multiply footcandles by .24.

Isofootcandle Chart F2MV 175W Metal Halide (MH) Catalog Number: F2MVMY175 Lamp: 175W Clear MH Lumen Rating: 14,000

For 100W MH, multiply footcandles by .58. For 70W MH, multiply footcandles by .37.

Accessories (Order Separately):

Slipfitter adapter

To be mounted to yoke mount fixture

Use with slipfitter adapter

Effective Projected Area (EPA):

- For windloading
- For proper pole selection

Aiming Angle	EPA
0°	1.6 FT ²
30° 60°	1.6 FT ²
60°	1.1 FT ²

Footcandle Table:

Mounting		Foo	otcandle Values for Is	ofootcandle Lines	
Height	A	В	С	D	E
10'	8.00	4.00	2.00	0.80	0.40
15¹	3.56	1.78	0.89	0.36	0.18
20¹	2.00	1.00	0.50	0.20	0.10
25'	1.28	0.64	0.32	0.13	0.06
30¹	0.89	0.44	0.22	0.09	0.04

Temperature P	erformance	Data:
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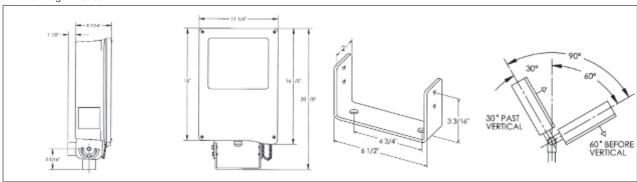
			4	0°C Ambie	ent	5	5°C Ambie	ent	6	5°C Ambie	ent		
	Lam	пр	Ten	perature (Code	Tem	perature (Code	Tem	perature (Code		ture ning
Catalog Series	Туре	Watts	Class I, Zone 2	Class I, Div. 2	Supply Wire °C	Class I, Zone 2*	Class I, Div. 2	Supply Wire °C	Class I, Zone 2*	Class I, Div. 2	Supply Wire °C	Range	Figure
F2MVS	High Pressure Sodium	50 70 100	T6 T6 T4	T3C T3A T2D	75 60 75	T6 T5 T4	T3C T3A T2C	75 75 90	T3B T3 -	T5 T4 -	75 85 –	90° 90°	1 1 1
F2MVM	Metal Halide	70 100	T4 T6 T4	T2A T3C T2D	75 75 75	T4 T5 T4	T2A T3A T2D	75 75	T3 T4 T4	T2A T3A T2C	110 85 85	90° 90°	1 1 1
	i ialiue	175**	T3	T2A	75	T3	T2A	85	T3	T2A	110	90°	1

^{*}Restricted breathing explosion protection, requires suffix S826 (TB). **Suitable for use in 65°C ambient without optional fuses.

Lamp Selection (Mogul Base):

ED28
D28
J

Weights and Dimensions: Fixture Weight: 26 lbs.



Finally, a true floodlight luminaire for hazardous areas.

Eaton's Crouse-Hinds FZD Series Luminaires are the first to deliver NEMA 7 \times 6 floodlight distribution patterns for Class I, Division 1 and Zone 1 environments. That means you'll need fewer of them to illuminate a given area. With their labor-saving features and flexible mounting options, the FZD Series is ideal for:

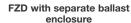
- Heavy process industries where flammable or explosive vapors or gases are present
- Hazardous areas, both indoors and outdoors, including those requiring elevated ambient capability, where long life and low maintenance costs are desired
- Petroleum refineries, chemical, petrochemical, and other heavy process industrial facilities
- Mounting to a wall, structure, or pole (with pole mount adapter accessory)



- NEMA 7 × 6 floodlight distribution pattern is standard – ideal light distribution for industrial applications; requires fewer luminaires in general lighting applications than required when using general area luminaires with high bay reflectors
- Internal reflector available in wide and narrow beam options; enclosed in glass tube, reducing maintenance and enhancing light output
- Heavy duty, cast copper-free aluminum construction with epoxy powder coat finish and stainless steel hardware – provides long life in industrial, abusive environments
- Explosionproof threaded construction suitable for hazardous and industrial applications; easy to maintain with no bolted covers
- O-ring gaskets on all threaded openings
 – allow NEMA Type 4X and marine listing
 for the harshest outdoor environments
- 40°C, 55°C, and 65°C ambient suitability

 ideal for use in high ambient
 temperature areas common in industrial facilities
- Factory-sealed ballast housing keeps ballast isolated from wiring chamber
- Trunnion (yoke) mount design standard construction provides the greatest mounting flexibility; can be vertically (wall) or horizontally (rooftop or floor) mounted
- Simple installation requires only two bolts to mount
- Mounting flexibility pole mount with SFA6-XP pole mount adapter (shown below) or wall or ceiling mount with FZD-KIT1 mounting accessory kit (shown above)





Certifications and Compliances:

NEC/CEC

- Class I, Division 1, Group B (with suffix -GB*), C, D
- Class I, Zone 1, Group IIB+H₂ (with suffix -GB*), IIB
- AEx d IIB+H (with suffix -GB*), IIB
- Ex d IIB+H₂ (with suffix -GB*), IIB
- Marine Locations
- Wet Locations
- Enclosure Type 4X
- IP66
- UL Listed (UL Standards 844, 1598, 1598A, 2279)
- cUL Listed (certified by UL to CSA Standard C22.2 No. 137 and CAN/CSA-E60079-1)

*See options for Group B and IIB+H2 ordering information.

Standard Materials:

- Luminaire housing, covers, socket holder, lamp tube end rings – copperfree aluminum
- External hardware stainless steel
- Glass lamp tube heat- and impactresistant tempered glass
- O-ring gaskets neoprene/silicone
- Yoke aluminum
- Trunnion adapter brass

Standard Finishes:

- Aluminum Corro-free[™] epoxy powder coat
- Stainless steel natural
- Brass natural

Luminaire Weights (lbs.):

Luminaire	FZD5 (HP5)	FZDM (MH)
150 watt	72	75
175 to 250 watt	77	77
400 watt	80	80



Pole Mount Adapter

Ratings:

Sources/Wattages (Mogul Base Lamps)

- HPS 150, 250 & 400 watts
- MH 175, 250 & 400 watts

Voltages

Standard Voltage Ballasts

- Multi-tap (120, 208, 240 & 277 V, 60 Hz)
- 120 V, 60 Hz
- 480 V, 60 Hz
- Tri-tap (120, 277 & 347 V, 60 Hz)

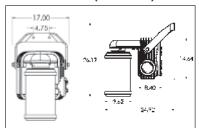
Optional Voltage Ballasts

- 220 V, 60 Hz
- 220 V, 50 Hz

Hub Size

- Standard: Two 3/4" NPT entries
- Optional: Two 25 mm (M25) entries (consult Eaton's Crouse-Hinds)

Dimensions (In Inches):



Suffix

FZD-KIT1

FZD Series Floodlight Luminaire

CI. I, Div. 1 & 2, Groups C, D CI. I, Zone 1 Marine Locations Wet Locations, IP66

Ordering Information:						
Lamp Type	Watts	Cat. #* Yoke Mount With ³ / ₄ " NPT Hubs				
Wide Beam Reflector – 7 x 6 Distribution						
High Pressure Sodium	150† 250 400	FZDS2NY150W/MT FZDS2NY250W/MT FZDS2NY400W/MT				
Metal Halide	175 250 400	FZDM2NY175W/MT FZDM2NY250W/MT FZDM2NY400W/MT				
Pulse Start Metal Halide	175 250 400	FZDM2NY175W/MT S828 FZDM2NY250W/MT S828 FZDM2NY400W/MT S828				
Narrow Beam Reflector – Spotlight Distribution						
High Pressure Sodium	150† 250 400	FZDS2NY150N/MT FZDS2NY250N/MT FZDS2NY400N/MT				
Metal Halide	175 250 400	FZDM2NY175N/MT FZDM2NY250N/MT FZDM2NY400N/MT				
Pulse Start Metal Halide	175 250 400	FZDM2NY175N/MT S828 FZDM2NY250N/MT S828 FZDM2NY400N/MT S828				

To complete the catalog number, add option suffix(es) if desired. Example: FZDS2NY400W/MT-S658

FZD With Separate Ballast Enclosure:

Glass Fiber Reinforced Polyester Ballast Enclosure With Cable Entry

Lamp Type	Watts	T-Code	Cat. #			
Wide Beam Reflector -	NEMA 7	7 x 6 Dist	ribution			
HPS/MH	250	T4	NOR 000 005 192 506			
Metal Halide	400	T3	NOR 000 005 194 106			
High Pressure Sodium	400	T3	NOR 000 005 194 006			
Narrow Beam Reflector - Spotlight Distribution						
HPS/MH	250	T4	NOR 000 005 192 505			
Metal Halide	400	T3	NOR 000 005 194 105			
High Pressure Sodium	400	T3	NOR 000 005 194 005			

Stainless Steel Ballast Enclosure With Cable Entry

Lamp Type	Watts	T-Code	Cat. #					
Wide Beam Reflector – 7 x 6 Distribution								
HPS/MH	250	T4	NOR 000 005 192 502					
Metal Halide	400	T3	NOR 000 005 194 102					
High Pressure Sodium	400	T3	NOR 000 005 194 002					
Narrow Beam Reflector - Spotlight Distribution								
HPS/MH	250	T4	NOR 000 005 192 501					
Metal Halide	400	T3	NOR 000 005 194 101					
High Pressure Sodium	400	T3	NOR 000 005 194 001					

Voltage Suffixes:			
Standard Voltages	Suffix	Optional Voltages	Suffix
Multi-tap (120, 208, 240, 277 V, 60 Hz)	/MT	220 V, 50 Hz	/220 50
Tri-tap			
(120, 277, 347 V, 60 Hz)	/TT	220 V, 60 Hz	/220
120 V, 60 Hz	/120		
480 V, 60 Hz	/480		

Options: Description

•	Ballast-Gard™ starter cut-out switch prevents starter pulsing
	when lamp is cycling or inoperative; prolongs ballast and
	igniter life (HPS only; not available with IR option)BG

- Factory assembled with HID lamp installed for additional labor savings......FA

- Fusing protects ballast and capacitor against abnormal line conditions (not suitable for marine applications).......S658*

*When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.

Accessories:

For Wall Or Ceiling Mounting

(order separately) For Pole Mounting	Cat. #
Pole mount adapter Class I, Division 1, Groups B, C, D Attach to yoke; fits 2" NPT conduit pole	SFA6-XP
Flexible explosionproof coupling	ECLK236
Elbow fitting	EL296-SA

Kit includes: EABC26-SA conduit outlet box, ECLK236 flexible explosionproof coupling, and EL296-SA elbow fitting

Temperature Performance Data:

iomporaturo i oriormano Data.				
Lamp	Ambient	Class I,	Supply	
	Temp. °C	Division 1, Zone 1	Wire °C	
150 watt HPS	40	T3C	75	
	55	T3C	75	
	65	T3B	90	
	40	T3C	75	
250 watt HPS	55	T3C	75	
	65	T3B	90	
400 watt HPS	40	T3C	75	
	55	T3C	75	
	65	T3B	90	
175 watt Metal Halide	40 55 65	T3A T3 T3	75 75 90	
250 watt Metal Halide	40 55 65	T3A T3 T3	75 75 90	
400 watt Metal Halide	40 55 65	T3A T3 T3	75 75 90	

^{*}All FZD catalog numbers shown above are with multi-tap ballasts (120, 208, 240 & 277 V, 60 Hz). The "MT" in the catalog number may be changed to any of the voltage suffixes listed below.

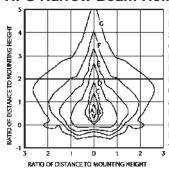
^{†150} watt HPS luminaires are furnished with ANSI spec/S55 ballasts for 55 V lamps.

FZD Series Floodlight Luminaire 6L

Photometrics:

Note: There are no aiming angle limitations for the FZD. The only limitations are those encountered by interference of the trunnion arm. The trunnion arm may be mounted on vertical or horizontal surfaces to overcome any limitations.

HPS Narrow Beam Reflector

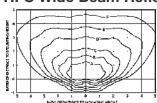


Isofootcandle Chart FZD 400W High Pressure Sodium (HPS) Catalog Number FZDS2NY400N Lamp: 400 W Clear HPS Lumen rating: 50,000 Luminaire located at 0°,0°Aiming Angle at 45°down from horizontal For 150W HPS. multiply footcandles by 0.32. For 250 W HPS, multiply footcandles by 0.6.

Footcandle Values For Isofootcandle Lines

Mtg. Ht.	Α	В	С	D	Е	F	G
10'	200.00	100.00	50.00	20.00	10.00	5.00	2.00
12'	138.89	69.44	34.72	13.89	6.94	3.47	1.39
16'	78.13	39.06	19.53	7.81	3.91	1.95	0.78
20'	50.00	25.00	12.50	5.00	2.50	1.25	0.50
25'	32.00	16.00	8.00	3.20	1.60	0.8	0.32

HPS Wide Beam Reflector

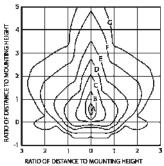


Isofootcandle Chart FZD 400W High Pressure Sodium (HPS) Catalog Number FZDS2NY400W Lamp: 400W Clear HPS Lumen rating: 50,000 Luminaire located at 0°,0°Aiming Angle at 45°down from horizontal For 150W HPS, multiply footcandles by 0.32. For 250W HPS, multiply footcandles by 0.6.

Footcandle Values For Isofootcandle Lines

Mtg. Ht.	Α	В	С	D	Е	F
10'	20.00	10.00	5.00	2.00	1.00	0.50
12'	13.89	6.94	3.47	1.39	0.69	0.35
16'	7.81	3.91	1.95	0.78	0.39	0.20
20'	5.00	2.50	1.25	0.50	0.25	0.13
25'	3.20	1.60	0.80	0.32	0.16	0.08

MH Narrow Beam Reflector

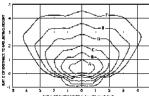


Isofootcandle Chart FZD 400W Metal Halide (MH) Catalog Number FZDMŽNY400N Lamp: 400W Clear MH Lumen rating: 34,000 Luminaire located at 0°,0°Aiming Angle at 45°down from horizontal For 175W MH, multiply footcandles by 0.38. For 250W MH, multiply footcandles by 0.6.

Footcandle Values For Isofootcandle Lines

Mtg. Ht.	Α	В	С	D	E	F	G
10'	100.00	50.00	20.00	10.00	5.00	2.00	1.00
12'	64.99	34.72	13.89	6.94	3.47	1.39	0.69
16'	39.06	19.53	7.81	3.91	1.95	0.78	0.39
20'	25.00	12.50	5.00	2.50	1.25	0.50	0.25
25'	16.00	8.00	3.20	1.60	0.80	0.32	0.16

MH Wide Beam Reflector



Isofootcandle Chart FZD 400W Metal Halide (MH) Catalog Number FZDM2NY400W Lamp: 400W Clear MH Lumen rating: 34,000 Luminaire located at 0°,0°Aiming Angle at 45°down from horizontal For 175W MH, multiply footcandles by 0.38. For 250W MH, multiply footcandles by 0.6.

Footcandle Values For Isofootcandle Lines

Mtg. Ht.	Α	В	C	D	E	F
10'	20.00	10.00	5.00	2.00	1.00	0.50
12'	13.89	6.49	3.47	1.39	0.69	0.35
16'	7.81	3.91	1.95	0.78	0.39	0.20
20'	5.00	2.50	1.25	0.50	0.25	0.13
25'	3.20	1.60	0.80	0.32	0.16	0.08

Effective Projected Area (EPA):

- For windloading
- For proper pole selection

Aiming Angle	EPA
0°	1.8 ft²
45°	2.3 ft ²

19

Hazard•Gard® H.I.D. Floodlights

Factory-sealed

Cl. I, Div. 1 & 2, Groups C, D
Cl. I, Div. 1 & 2, Groups B, C, D (add suffix GB)
Cl. I, Zone 1
Marine Locations, IP66
Wet Locations

Applications:

Hazard•Gard Luminaires with Trunnion Arm (S812 suffix) and EV912 High Bay Reflector are used in:

- Heavy process industries where flammable or explosive vapors or gases are present
- Hazardous areas, both indoors and outdoors where long life and low maintenance costs are desired
- Petroleum refineries, chemical, petrochemical, and other heavy process industry facilities
- Hazardous locations requiring elevated ambient capability
- For mounting to a wall or structure
- Mounted on a pole, when used with the SFA6 slipfitter adapter

Features:

- Luminaire is factory wired; power is fed through "wireless" connection block which serves as a mechanical seal between conduit and ballast compartments, eliminating the need for an external, field-installed seal; the result is fast, easy installation
- High bay reflectors of Alzak® aluminum
- Internally fluted glass globes reduce glare and provide comfortable viewing light
- Wide range of light sources and wattages to meet specific lighting needs - 50, 70, 100, 150, 200, 250 and 400W high pressure sodium (HPS); 70, 100, 175, 250 and 400W metal halide (MH)
- High power factor (90%+) ballasts reduce power costs – allow more luminaires per circuit
- Elevated ambient capability permits reliable operation at high ambient temperature; selected luminaires are suitable for ambient temperatures up to 65°C
- Integral ballasts separate ballasts are not required; lowest installed cost
- Factory-sealed, porcelain, mogul base socket
- The trunnion arm gives you the ability to offer a Hazard Gard floodlight with varying degrees of adjustability between -90° and +90°
- When mounting on a wall, there are numerous mounting arrangements – due to the pre-drilled openings in the wall bracket

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 and 2, Groups B (with GB suffix), C, D

- UL Standard: 844, 595
- CSA Standard: C22.2 No. 137

Standard Materials:

- Mounting module, cover, ballast housing, guard, globe ring – copper-free aluminum
- Globe heat- and impact-resistant glass
- Exterior hardware stainless steel
- Lamp socket porcelain with stainless steel screw shell
- Reflector high bay: Alzak aluminum

Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Alzak natural (anodized)

Options:

Description Fused Not suitable for marine applications	Suffix S658
Ballast-Gard™	. BG
50-400 HPS only Instant Restrike Cannot be used with BG or QTZ options	. IR
50-150W LX HPS only Quartz Auxiliary Lighting Not available with 400W MH Uses 100 watt single-ended lamp Lamp not included	
Group B Suitability	. GB

Size Ranges:

3/4"

Electrical Rating Ranges:

- 120, 208, 240, 277, 347, 480, 600, multi-tap*
- 50 to 400 watts

Luminaire

Cat. #

Ordering Information

Catalog number includes guard, trunnion arm, and high bay reflector

High Pressure Sodium	
EVMA42051/volts S812 EV3912 50	3/4
EVMA42071/volts S812 EV3912 70	3/4
EVMA42101/volts S812 EV3912 100	3/4
EVMA42151/volts S812 EV3912 150	3/4
EVMA42201/volts S812 EV3912	3/4
EVMA42251/volts S812 EV3912	3/4
EVMA42401/volts S812 EV3912	3/4
Metal Halide	
EVMA92071/volts S812 EV3912 70	3/4
EVMA92101/volts S812 EV3912 100	3/4
EVMA92171/volts S812 EV3912 175	3/4
EVMA92251/volts S812 EV3912 250	3/4
EVMA92401/volts S812 EV3912 400	3/4

Note: Replace "volts" with Suffix from Voltage Suffix

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Temperature Performance Data:

Hazard•Gard Luminaire with Trunnion Arm (S812 suffix)

nni	on Arm (S812 suf	fix)
	Maximu	m Ambient	t
	Class I		
-			

	Class I		0500
Watts	40°C	55°C	65°C
High Pre	essure Sodi	ium	
50	T4	T4	T3C
70	T4	T4	T3C
100	T4	T4	T3C
150	T4	T4	T3C
200	T3A	_	_
250	T3A	_	_
400	T3A	_	_
Metal Ha	alide		
70	T3	T3	_
100	T3	T3	_
175	T3	T3	_
250	T3	T3	_
400	T2D	_	_

Note: See Section 4L for additional luminaire information.

Required Accessories:



EABC
Cat. # Hub Size (In.)

EABC26 3/4



UNL 90° Angle

Cat. #	Size
UNL205	3/4 to 3/4



ECGJH

Cat. #	Flexible Length	Size
ECGJH230	30	3/4

*CSA certified luminaires are not available with multi-tap ballast or S658 fuse option. Alzak is a registered trademark of ALCOA.

<u>6</u>

Hub

Size

Watts (In.)

Incandescent Floodlights

Applications:

RCDE Incandescent Lighting Luminaires are permanently installed to provide general illumination in locations having hazardous atmospheres, such as:

- Oil refineries
- Oil and gasoline loading docks
- · Aircraft servicing docks and shelters
- Distilleries
- Paint manufacturing plants
- · Pumping stations
- Other Class I, Groups C and D locations

Features:

RCDE Incandescent Lighting Luminaires have fixed mountings as follows:

- RCDE-6 junction box base with four mounting feet or 2" threaded hub (fill sealing chamber with Chico® A after conductors are in place)
- RCDE-6 adjustment allows rotation of 360° horizontally and 75° vertically
- Locking screws hold housing firmly in position
- RCDE-10 junction box base with four mounting feet
- Door which threads into housing includes heat- and impact-resistant lens; door has notches or holes provided for ease of removing or tightening
- Factory wired leads through explosionproof seal to junction box
- Adjustment that allows rotation of 360° horizontally and 135° vertically; locking bolts or clamps hold housing firmly in position

Certifications and Compliances:

- NEC/CEC:
 RCDE Class I, Division 1 and 2,
 Groups C, D; Class I, Zone 1
 (see photometric data listing)
- UL Standard: 844
- CSA Standard: C22.2 No. 137 (RCDE6 only)

CEC/CSA Certified RCDE-6 - Eaton's Crouse-Hinds Canada luminaires only.

Standard Materials:

- Body copper-free aluminum
- Lens glass-, heat- and impact-resistant

Standard Finishes:

Natural

Size Ranges:

• RCDE - fixed mounting - 3/4" hubs

Capacity Ranges:

- RCDE-6 150 watt, PAR38 or R40; 300 watt, R40 (medium base)
- RCDE-10 500 watt, PAR64 Ext. Mog End Prong

Ordering Information:

After identifying the hazardous area, select the model of lighting luminaire required for that area. Then from the photometric data, select appropriate Cat. No. based on type of mounting desired (Example: RCDE-10 No. 47282).



RCDE-6	
Description	Cat. #
Junction box base (2" threaded hub)	44978A
Junction box base (4 mtg. for	+) 44710B



RCDE-10	
Description	Cat. #
Junction box base (4 mtg. feet)	47282A

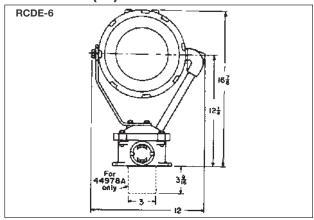
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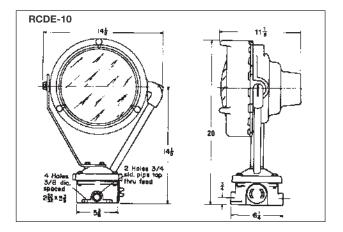
Temperature Performance Data: (based on 40°C Ambient)

•	150W	300W	500W	
RCDE-6	T3B	T2B		
RCDE-10			T3C	

Incandescent Floodlights

Dimensions (In.):





Fixture Weights:

Cat. #	Lbs. (Net)	
RCDE-6		
44719B	21.0	
44978A	21.0	
RCDE-10		
47282A	26.0	

Photometric Data:

		Bean	n Spread		
Lamp Watts and Type	Location	Hor.	Vert.	Beam Lumens	Av. Max. Candle Power
RCDE-6 150 Watt PAR38 Flood	Class I,	60°	60°	1690	4000
150 Watt PAR38 Spot	Groups C, D	28°	28°	1200	11500
300 Watt* R40 Flood	Class I,	123°	123°	3200	1950
300 Watt R40 Spot	Group D	60°	60°	3100	8900
RCDE-10 500 Watt, PAR64 (500 PAR64/NSP)		19°	14°	3000	110000
500 Watt, PAR64 (500 PAR64/MFL)	Class I, Group D	35°	19°	3300	37000
500 Watt, PAR64 (500 PAR64/WFL)		55°	32°	3400	13000

*CSA certified fixtures are for 150 watt lamp maximum.

9

Lighting Accessories Hazardous and Non-hazardous

Description	Page No.
Application/Selection	see page 1162
Hazardous Area Hangers	_
Adjustable Type UNR	see page 1179
Flexible Type EC Series	see page 1173
Locking Coupling COUP Series	see page 1179
Outlet Box Type	. 0
EAHC/EFHC Series	see page 1174
GUA/GUF Series	see page 1178
CPS Series	see page 1176
Outlet Box Type with Flexible Cushion	
EFHX Series	see page 1175
Non-hazardous Area Fittings	
Conduit Clamps	
CHS Series	see page 1171
Non-hazardous Area Hangers – Flexible Type	
Ball and Cushion	
ARB Series	see page 1169
UNJ/UNJC Series	see page 1167
Cushion - Vaportight	
AHG Series	see page 1167
UNHC Series	see page 1171
Hooks and Loops	
UNE, UNH, UNHC Series	see page 1170
Outlet Box – Ball and Cushion	
AL Series	see page 1166
Quick Disconnect Type	
FHM Series	see page 1172

Luminaire Hangers 7L and Accessories - For Pendant Mount

Application and Selection

Applications:

- · Luminaire hangers listed in this section are used for pendant suspension of incandescent, high intensity discharge, and fluorescent industrial luminaires
- They are especially suitable for use in locations where moisture, dust, and corrosion are a problem

Hangers for Non-hazardous Locations:

- · Hangers listed provide a wide variety of mounting means; luminaires may be suspended from cast outlet boxes, stamped steel outlet boxes, or directly from the conduit system; also offered are several styles of hook type hangers, used to suspend luminaires by means of conduit stems or support rods from span wires, horizontal conduit and luminaire loops
- All hangers are flexible, permitting luminaire and supporting stem to swing freely; this feature permits luminaires to hang plumb and prevents damage to the luminaire, stem, and outlet box in case of high wind or accidental impact
- · Hangers are constructed so that luminaires cannot be rotated, thereby eliminating wire twisting and possible damage to connections
- Cushion hangers, listed for most styles, include a spring which carries the weight of the luminaire; this feature prolongs lamp life and protects the luminaire assembly from shock or vibration
- All hangers are easily installed; with many, the luminaire, stem, and support member can be assembled and wired at the work bench before making the final installation: with several, a quick disconnect plug and receptacle feature is either provided or can be easily arranged, to facilitate luminaire installation and removal for maintenance

Hangers for Hazardous

- Location: • Will it require more stringent corrosion protection material?
- Will it be a hazardous or non-hazardous location?

Lighting luminaire to be used:

Considerations for

Selection:

- · Some hangers can be used with a multitude of luminaires; others are specialized
- · Weight of luminaire is a consideration in selecting cushion hangers

Typical	Lumina	aire Weights:			
Luminaire Type	Weight (lbs.)	Luminaire Type	Weight (lbs.)	Luminaire Type	Weight (lbs.)
Incandesce	· ,	H.I.D.:	()	-31	()
VAPORGAR		Champ® Series		Hazard-Gard® Series	
VDA12	11/2	DMVC2A250GP	313/4	EVMA50W HPS	41
VDA12G	4	DMVM2A175GP	33	EVMA70W HPS	41
VDA12GP	41/4	DMVM2A250GP	333/4	EVMA100W HPS	45
VDA15	11/4	DMVS2A070GP	303/4	EVMA150W HPS (55V)	46
VDA15G	3	DMVS2A100GP	313/4	EVMA150W HPS (100V)	45
VDA15GP	31/4	DMVS2A150GP	34	EVMA175W MH	43
VDA23	1 1/2	LMVS2A035GP	10 ³ / ₄	EVMA200W HPS	47
VDA23G	4	LMVS2A050GP	113/4	EVMA250W HPS	47
V Series		LMVS2A070GP	113/4	EVMA250W MH	44
V275	23/4	LMVS2A100GP	121/4	EVMA400W HPS	56
V2759	41/4	VMVM2A175GP	171/4	EVMA400W MH	52
EV Series		VMVM2A250GP	34	Fluorescent:	
EVI301	11	VMVM2A250GR305	37	DMVF2A026GP	19¹/₄
EVI501	24	VMVM2A250GRD4	341/2	DMVF2A039GP	221/4
EVA292	18	VMVM2A400GR305	38	DMVFB2A026GP	19 ¹ / ₂
Corro•Gard®	Series	VMVM2A400GRD4	351/2	DMVFB2A039GP	
NDA32	51/2	VMVS2A050GP	151/4	EVF22062	57
NDA32G	71/2	VMVS2A070GP	16¹/₄	EVF24062	94
NDA33		VMVS2A100GP	16¹/₄	EVF22082	52
NDA33G	81/4	VMVS2A150GP	161/2	FVN4240	52
		VMVS2A200GP	31	FVN4340	54
		VMVS2A200GR305	34	FVN4260	58
		VMVS2A200GRD4	311/2	NFW4240	21
		VMVS2A250GP	31	VFA222G	4
		VMVS2A250GR305	34	EVFT (2 Lamp)	191/2
		VMVS2A250GRD4	311/2	EVFT (4 Lamp)	361/2
		VMVS2A400GP	40	FVS	12
		VMVS2A400GRD4	$40^{1}/_{2}$	Reflector/Refractor Type	
				EV3912	1
				RA64, 636	11/4
				RA70, 71, 739, 725	1
				RD64, 636	
				RD70, 71, 739, 725	1
				PR2, 3, 5	3
				R2	13½
				R5	13
				GRD4	133/4
				G241	21/4
				G245	21/4
				GR305, GR205	14

Locations:

- As required by NEC Article 501 and CEC Part I Section 18, rigid conduit luminaire stems longer than 12" must be permanently and effectively braced or flexibility provided in the form of a fitting or flexible support
- · A variety of hangers is offered for both rigid conduit suspension and flexible suspension; flexible luminaire hangers listed comply with NEC Article 501 and CEC Part I Section 18 and also permit luminaires to hang plumb

Luminaire Hangers and Accessories – For Pendant Mount

Quick Selector Chart

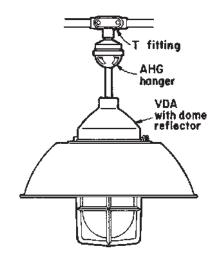
Quick Selector Chart

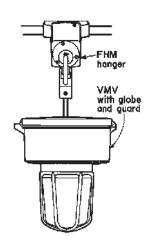
Hanger Type	Function	NEC/CEC Hazardous Area Compliances	Use with Luminaire Type	Use with Mtg. Box	Luminaire Weight Capacity (Cushion)	Luminaire Weight Capacity (Ball or Plain Type)	Standard Material
AL	Outlet box and hanger	Cl. I, Div. 2	Any non-hazardous or Class I, Div. 2	None needed	3-48 lbs.	125 lbs.	Body – Feraloy® iron alloy Nipple – malleable iron Cover – sheet steel
FHM	Quick disconnect between luminaire and outlet box	Not applicable	Any non-hazardous	None needed		125 lbs.	Body – copper- free aluminum Cover – steel Loop and assembly – copper-free aluminum or steel
AHG	Gasketed hanger (vaportight)	Cl. I, Div. 2; Cl. II, Div. 2; Cl. III Wet locations NEMA 3, 3R	Any non-hazardous or Div. 2 luminaires	Any	4-30 lbs.	-	Housing – malleable iron and Feraloy iron alloy Stem support – Feraloy iron alloy
UNJ/UNJC	Ball and cushion hanger	Cl. I, Div. 2	Any non-hazardous or Class I, Div. 2	Any	6-48 lbs.	125 lbs.	Body – malleable iron Clamp – copper-free aluminum
ARB	Ball or cushion hanger	Cl. I, Div. 2	Any non-hazardous or Class I, Div. 2	GRF	4-30 lbs.	125 lbs.	Body – Feraloy iron alloy
UNE, UNH, UNHC	Quick disconnect hanger hook	Cl. I, Div. 2	Any non-hazardous or Class I, Div. 2	Not applicable	12-64 lbs.	125 lbs.	Malleable iron, copperfree aluminum
EC	Explosionproof flexible hanger	Cl. I, Groups A, B, C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous	Any	_	_	Body – bronze hose Fittings – steel
GUA, GUJ, GUF	Explosionproof boxes and hanger covers	Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous	None needed	_	125 lbs.	Boxes – Feraloy iron alloy Cover – copper- free aluminum
EAHC, EFHC	Explosionproof hanger	CI. I, Groups A, B, C, D; CI. II, Groups E, F, G; CI. III	Any hazardous	None needed	_	125 lbs.	Body – Feraloy iron alloy Cover – copper- free aluminum
UNR	Explosionproof adjustable hanger	Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous or non-hazardous	Any	_	125 lbs.	Feraloy iron alloy
EFH	Explosionproof boxes and hangers	Cl. I, Groups C, D; Cl. II, Groups E, F, G; Cl. III	Any hazardous	None needed	65 lbs.	_	Feraloy iron alloy

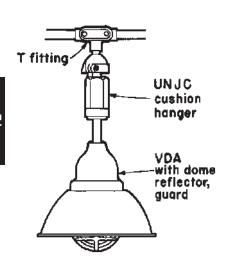
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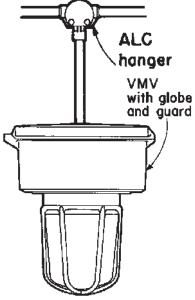
Luminaire Hangers and Accessories — For Pendant Mount

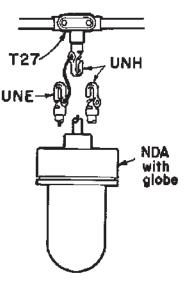
Typical Installations





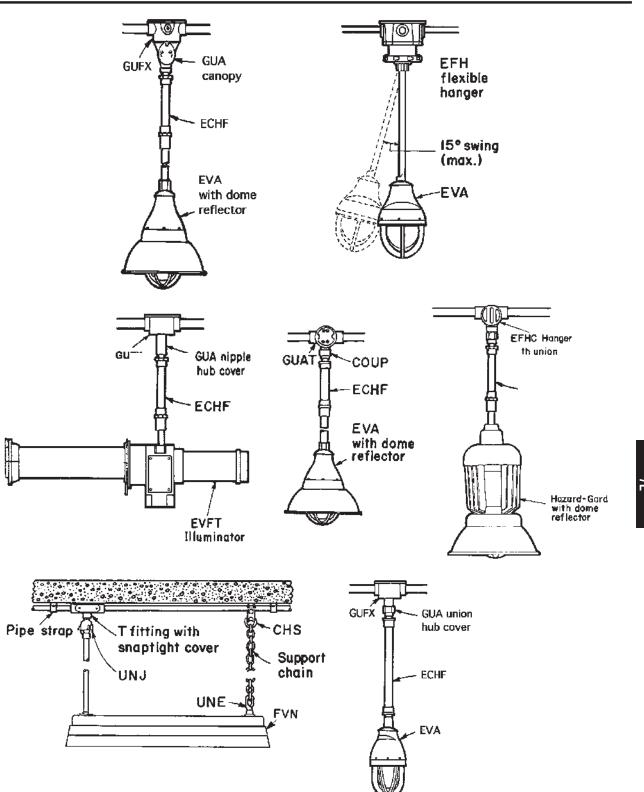






Luminaire Hangers and Accessories — For Pendant Mount

Typical Installations



7L

AL Flexible Luminaire Hangers

For Pendant Mount

Features:

Functions as both conduit outlet box and luminaire hanger; hubs are provided for threading the conduit directly into the hanger body; for use with incandescent, H.I.D., and fluorescent luminaires

- Supporting nipple, ball or cushion type, is a universal joint permitting luminaire to swing through an angle of 20 degrees in any direction from the perpendicular
- Cover has one screw hole and one open slot – easily swung aside for wiring without removal and possible loss of cover
- Luminaire, conduit stem, and nipple can be assembled and wired at the work bench; the assembly is then placed in the hanger body and luminaire wires spliced to the circuit wires
- Provided with a separate grounding wire for ground connections

Standard Materials:

- Body Feraloy®
- Nipple malleable iron
- Cover sheet steel

Standard Finishes:

- Feraloy and malleable iron zinc electroplate and aluminum acrylic paint
- Sheet steel electrogalvanized with chromate finish

Size Ranges:

- Conduit hubs $\frac{3}{4}$ " to 1"
- Luminaire stem 1/2" and 3/4"
- Luminaire weight cushion type, 3 to 48 lbs.; ball type, 125 lbs.

Options:

The following special options are available from the factory by adding the suffix to the Cat. No.:

Description	Suffix
Suspension attachment for span	
wire or threaded rod (see listings)	S1

Suspension Attachment For horizontal cable or vertical support rod



AL hangers can be furnished with a loop fastened to the top of the body to provide a means for suspending luminaires from vertical support rods or horizontal span wires. The loop will take a wire or cable with a maximum diameter of %s". The boss on top of the loop is tapped %g"-16 to accept a threaded rod.

ALC



Ball



Cushion

Ball Luminaire

Stem Size	Conduit Size	Cat. #
1/2	3/4	ALC21
3/4	3/4	ALC22
3/4	1	ALC32

Cushion

Luminaire Stem Size	Conduit Size	Luminaire Weight (Lbs.)	Cat. #
1/ ₂ 3/ ₄ 3/ ₄	3/ ₄ 3/ ₄ 1	3 to 6	ALC214 ALC224 ALC324
1/ ₂ 3/ ₄ 3/ ₄	3/ ₄ 3/ ₄ 1	6 to 12	ALC218 ALC228 ALC328
1/2 3/4 3/ ₄	3/ ₄ 3/ ₄ 1	12 to 24	ALC2116 ALC2216 ALC3216
1/2 3/ ₄ 3/ ₄	3/ ₄ 3/ ₄ 1	24 to 48	ALC2132 ALC2232 ALC3232

ALT



Ball



Cushion

Ball Luminaire

Luminaire Stem Size	Conduit Size	Cat. #
1/2	3/4	ALT21
3/4	3/4	ALT22
3/4	1	ALT32

Cushion

Luminaire Stem Size	Conduit Size	Luminaire Weight (Lbs.)	Cat. #
1/ ₂ 3/ ₄ 3/ ₄	³ / ₄ ³ / ₄ 1	3 to 6	ALT214 ALT224 ALT324
1/ ₂ 3/ ₄ 3/ ₄	³ / ₄ ³ / ₄ 1	6 to 12	ALT218 ALT228 ALT328
1/ ₂ 3/ ₄ 3/ ₄	3/ ₄ 3/ ₄ 1	12 to 24	ALT2116 ALT2216 ALT3216
1/ ₂ 3/ ₄ 3/ ₄	3/ ₄ 3/ ₄ 1	24 to 48	ALT2132 ALT2232 ALT3232

AHG, UNJ and UNJC Flexible Luminaire Hangers

For Pendant Mount

AHG – Cl. I, Div. 2, Groups A, B, C, D
Cl. II, Div. 2, Groups F, G
Cl. III
Wet Locations, NEMA 3, 3R
UNJ, UNJC – Cl. I, Div. 2, Groups A, B, C, D

Features:

- For connection to conduit hub or hub cover of supporting conduit fitting
- For incandescent, H.I.D., and fluorescent luminaires
- Cushion support for conduit stem is a universal joint permitting luminaire to swing through an angle of 8 degrees in any direction from the perpendicular
- Gasketed by means of a durable neoprene diaphragm which excludes moisture and dirt from both luminaire and conduit system

Certifications and Compliances:

- Class I, Division 2
- Class II, Division 2
- Class III
- Wet Locations
- NEMA 3. 3R

Standard Materials:

- Housing: top cap malleable iron; bottom cap – Feraloy® iron alloy
- Luminaire stem support Feraloy iron alloy

Standard Finishes:

 Feraloy iron alloy and malleable iron – electrogalvanized and aluminum acrylic paint

Size Ranges:

- Male nipple 3/4"
- Luminaire stem ³/₄"
- Luminaire weight 4 to 30 lbs.

AHG

Cushion Vaportight for Class I, Div. 2; Class II, Div. 2: Class III



Luminaire Stem Size*	Male Nipple Size*	Luminaire Weight (Lbs.)	Cat. #
3/4	3/4	4 to 8	AHG22103
3/4	3/4	8 to 16	AHG22104
3/4	3/4	16 to 30	AHG22111

Features:

- For connection to conduit hub or hub cover of supporting conduit fitting
- For incandescent, H.I.D., and fluorescent luminaires
- Supporting nipple, ball or cushion type, is a universal joint permitting luminaires to swing through an angle of 20 degrees in any direction from the perpendicular

Certifications and Compliances:

NEC: Class I. Division 2

Standard Materials:

- Body and nipple malleable iron
- Clamp copper-free aluminum

Standard Finishes:

- Malleable iron electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural finish

Size Ranges:

- Male nipple 1/2" and 3/4"
- Luminaire stem ½" and ¾"
- Luminaire weight: cushion type 6 to 48 lbs.; ball type – 125 lbs.

UNJ



Ball

Luminaire Stem Size	Male Nipple Size	Cat. #
1/2	1/2	UNJ1
3/4	3/4	UN.I2

UNJC



Cushion

Luminaire Stem Size*	Male Nipple Size*	Luminaire Weight (Lbs.)	Cat. #
3/4	3/4	6 to 12	UNJC28
3/4	3/4	12 to 24	UNJC216
1/2	1/2	24 to 48	UNJC132
3/4	3/4	24 to 48	UNJC232

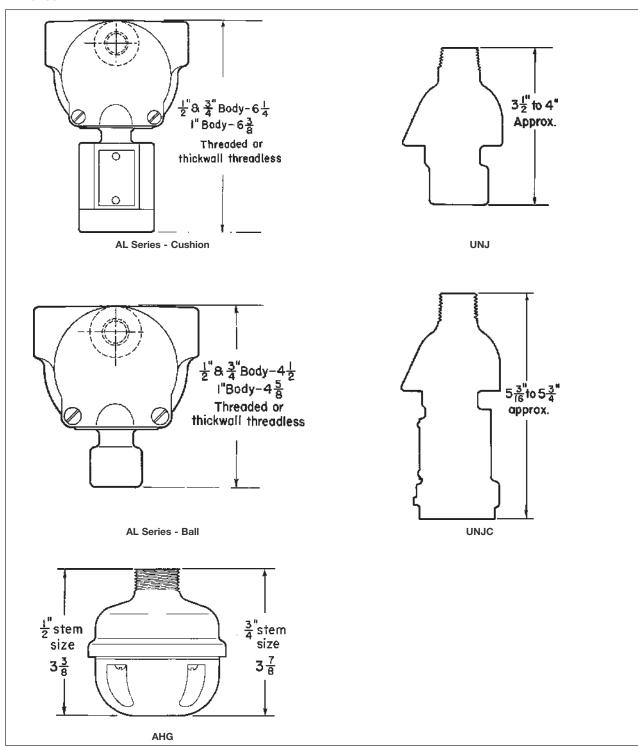
^{*1/2&}quot; connection can be made by using reducers.

7L Flexible Luminaire Hangers

For Pendant Mount Dimensions

Dimensions

In Inches:



ARB Flexible Luminaire Hangers

For Pendant Mount

Features:

- Available in two styles one for direct attachment to GRF cast outlet boxes by 4 screws, the other for direct attachment to 4" octagonal stamped steel outlet boxes by 2 screws; for incandescent, H.I.D., and fluorescent luminaires
- Both styles available with ball or cushion support for conduit stem to permit luminaire swing in any direction; ball type provides 11 degree swing, cushion type 8 degree swing from the perpendicular
- Gasketed cushion hangers for GRF are provided with a durable neoprene diaphragm which excludes moisture and dirt from both luminaire and conduit system

Standard Materials:

- Mounting plate for GRF Feraloy® iron alloy; for 4" outlet boxes sheet steel
- Hanger body and luminaire stem support

 Feraloy iron alloy

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Sheet steel electrogalvanized with chromate finish

Size Ranges:

- Luminaire stem 1/2" and 3/4"
- Luminaire weight: cushion type 4 to 30 lbs.; ball type – 125 lbs. (ARB6 and ARB2 maximum weight 60 lbs.)

For GRF and VXF outlet boxes only





Ball

For GRF and VXF outlet boxes and 4" octagonal outlet boxes





Ball Cushion

ARB Fits GRF and VXF Outlet Boxes

Bal

	Luminaire Stem	Luminaire Weight	
Description	Size	(Max.)	Cat. #
Surface	1/2	125	ARB62
Flush	1/2	125	ARB67
Surface	3/4	125	ARB662

Cushion Surface

Ousilion C	ai iaoc	
Luminaire	Luminaire	
Stem	Weight	
Size	(Lbs.)	Cat. #
1/2	4 to 8	ARB82
1/2	8 to 16	ARB102
1/2	16 to 30	ARR122

Cushion Surface – Vaportight with Neoprene Diaphragm

	J	
Luminaire	Luminaire	
Stem	Weight	
Size	(Lbs.)	Cat. #
1/2	4 to 8	ARB821
1/2	8 to 16	ARB1021
1/2	16 to 30	ARB1221

ARB Fits GRF, VXF and 4" Outlet Boxes

Ball

Dali			
Luminaire	Luminaire		
Stem	Weight	eight	
Size	(Max.)	Cat. #	
1/2	60	ARB6	
3/4	60	ARB2	

Cushion Luminaire Luminaire Stem Weight

Stem Size	Weight (Lbs.) Cat.	
1/2	4 to 8	ARB8
1/2	8 to 16	ARB10
1/2	16 to 30	ARB12

7L UNE, UNH and UNHC Flexible Luminaire Hangers

For Pendant Mount

The following applies to all items on this page:

Applications:

- Provides a simple, inexpensive, quick disconnect method for hanging pendant luminaires; for incandescent, H.I.D., and fluorescent luminaires
- Permits free swing in any direction to prevent damage to luminaire stem; cushion style provides additional protection from vibration to prolong lamp life

Features:

- Female hooks and loops are used with rigid conduit luminaire stems to suspend luminaires; they may also be used with male hooks and loops, threaded into a conduit outlet hub
- All hooks and loops are provided with openings for passage of luminaire wires; luminaire, conduit stem, and hook or loop can be assembled and wired at the work bench; the assembly is then hung on the fixed hook and connection made
- For ease of relamping and maintenance, the outlet fitting can be equipped with an attachment plug receptacle cover and a matching plug cap used with the luminaire assembly; for permanent wiring, a wire hole cover may be used

Applicable to UNE and UNH (upper listings) only:

Features:

Diameter of wire opening: 1/2"

Standard Materials:

Malleable iron

Standard Finishes:

 Cadmium electrogalvanized and aluminum acrylic paint

Size Ranges:

- Luminaire stem or hub 1/2" and 3/4"
- Luminaire weight 125 lbs.

Applicable to UNH and UNHC (lower listings) only:

Features:

- Hooks are shaped to permit easy installation of large heavy luminaires, such as H.I.D. and fluorescent units
- Diameter of wire opening: 5/8"

Standard Materials:

• Copper-free aluminum

Standard Finishes:

Natural

Size Ranges:

- Luminaire stem 1/2" and 3/4"
- Luminaire weight: cushion type 12 to 64 lbs.; plain type 125 lbs.



UNE and UNH Flexible Luminaire HangersFor Pendant Mount

Туре	Style	Luminaire Stem Size	Luminaire Weight (Lbs.)	Cat. #
UNH	Male	1/ ₂ 3/ ₄	125 125	UNH16 UNH26
UNH	Female	1/ ₂ 3/ ₄	125 125	UNH1 UNH2
UNE	Male	1/ ₂ 3/ ₄	125 125	UNE16 UNE26
	Female	1/ ₂ 3/ ₄	125 125	UNE1 UNE2





Female

Female Cushion

UNH and UNHC Flexible Luminaire Hangers

Туре	Style	Luminaire Stem Size	Luminaire Weight (Lbs.)	Cat. #
UNH	Female	1/2	125	UNH182
UNHC	Female Cushion	3/ ₄ 3/ ₄ 3/ ₄	12 to 24 24 to 48 48 to 64	UNHC216 UNHC232 UNHC264

UNHC Flexible Luminaire Hangers

For Support Only CHS Conduit Clamp; UNH Conduit Hook; For Pendant Mount Fluorescent Luminaires

Applications:

- Used for support of pendant fluorescent luminaires
- UNHC provides cushion support for luminaires suspended by '/4" or 5/16" threaded rod, and is used with the ring of CHS conduit clamps
- UNH hook provides an extremely simple means of conduit suspension for the unwired end of a fluorescent luminaire, as it merely hooks over the horizontal supporting conduit

Features:

- The bushing in UNHC cushion hangers is tapped for both 1/4" and 5/16" suspension rod, with the lower half tapped 5/16"; either size rod can be used without reversing the bushing
- CHS conduit clamp firmly grips the conduit and the ring at bottom accepts either a hooked rod or the UNHC cushion hanger for threaded rod; will also accept UNH and UNHC hangers for conduit stem listed on the preceding page
- The UNH conduit hook fits over conduit up to and including 1" and has a hub for attachment of a ½" conduit stem

Standard Materials:

- UNHC copper-free aluminum
- CHS: body malleable iron; clamp copper-free aluminum; ring – steel wire
- UNH Feraloy® iron alloy

Standard Finishes:

- Copper-free aluminum natural finish
- Feraloy and malleable iron electrogalvanized and aluminum acrylic paint
- Steel wire electrogalvanized with chromate finish

Size Ranges:

- Luminaire stem (UNH) 1/2"
- \bullet Conduit (CHS): $^1\!/_{\!2}"$ to 1"
- Luminaire weight: UNHC cushion 12 to 64 lbs.; CHS, UNH – 125 lbs.

UNHC Cushion Luminaire Hangers



Luminaire Weight (Lbs.)	Support Rod Tap	Cat. #
12 to 24	1/4"-20	UNHC2816
24 to 48	and	UNHC2832
48 to 64	5/16"-18	UNHC2864

CHS Conduit Clamp and UNH Hook



Clamp



Conduit Size	Clamp Cat. #	Hook Cat. #	Hook Hub Size
1/2	CHS1437		
3/4	CHS2437	UNH13	1/2
1	CHS3437		

7L

FHM Power Hook Luminaire Hangers

For Pendant Luminaires

Features:

- For mounting H.I.D. type luminaires in non-hazardous locations
- Power hook housing has two ¾" through-feed hubs and one 3/4" hub on the top for pendant mounting; throughfeed hubs are furnished with flush plugs
- · Cast mounting lugs are provided for direct ceiling mounting
- Housing contains a roomy 15 cu. in. splicing chamber and interlocking type receptacle with leads
- · Plugs and receptacles are interlocking type to prevent accidental disengagement; when plug is inserted, hook is blocked and luminaire assembly cannot be removed; to service the luminaire, pull the plug, unhook the loop luminaire assembly, and take it to a convenient servicing area
- Loop can move a maximum of 30°, allowing the power hook to be mounted on a canted ceiling; the luminaire assembly will hang true to the vertical
- · Loop and hook are shaped for selfalignment and resist twisting of luminaire by gusts of wind or light drafts
- Supporting loop is furnished with 16" of #16-3/C type SO cord and an interlocking type plug

Certifications and Compliances:

• Meet UL and NEMA requirements for the listed electrical ratings

Standard Materials:

- Power hook body copper-free aluminum
- Access cover zinc plated cold rolled
- Loop copper-free aluminum

Standard Finishes:

- Copper-free aluminum natural finish
- Steel electrogalvanized with chromate

Size Ranges:

- Hubs 3/4"
- Luminaire weights: loop up to 125 lbs.
- Loop luminaire stem size 3/4"

Electrical Rating Ranges:

• 480 volts, 14 amps, 2 wire, 3 pole

FHM

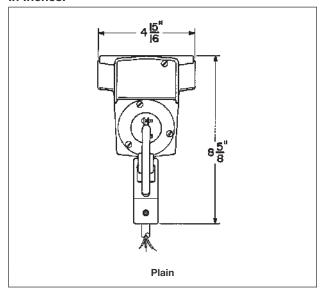
For H.I.D. Type Luminaires with Voltages up to 480 Volts

Loop	Hubs*	Luminaire Stem*	Luminaire Weight (Lbs.)	Cat. #
Plain	3/4	3/4	125	FHM201



Plain

Dimensions In Inches:



7L

Explosionproof Dust-Ignitionproof

ECHF Flexible Luminaire Supports

For Pendant Mount

CI. I, Div. 1 & 2, Groups A, B, C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III

Applications:

ECHF Series Flexible Luminaire Supports are used in hazardous locations:

- Where a luminaire must hang more than 12" from its supporting junction box (as specified by NEC Article 501 and CEC Part I Section 18)
- To assure that luminaires hang plumb and will swing freely if accidentally struck; prevents damage to luminaire and supporting outlet fitting

Features:

- Complies with NEC Article 501/CEC Part I Section 18
- Free swinging in any direction through a large arc
- Good electrical continuity no bonding jumpers needed
- · Watertight construction
- Insulating liner of asphalt impregnated fiber to protect conductors
- Constructed to reinforced flexible metal hose
- Two female end fittings, each with a removable short nipple
- Nipples fit set-screw type luminaire hubs
- Female end fittings are equipped with set-screws to prevent turning during relamping and loosening of fitting with vibrations

Certifications and Compliances:

• NEC/CEC:

Class I, Groups A, B, C, D Class II, Groups E, F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Finishes:

• Brass and bronze - natural

Standard Materials:

- Inner core brass
- Outer braid bronze
- End fittings bronze
- End fittings brass (CSA certified units)

Options:

Description	Suffix
Material - stainless steel hose and	
end fittings	S516
Finish – flexible neoprene protective	
coating	S758
Special lengths and sizes	
availableDetailed infor	mation
on r	equest

Size Ranges:

- Flexible length 4" to 18"
- Nipple size 1/2" and 3/4" (see "Options")
- Luminaire weight up to 125 lbs.

ECHF

Ordering Information:

Description

Flexible	Nipple	Overall	Cat. #	
Length	Size	Length		
4	1/ ₂	10	ECHF14	
	3/ ₄	10	ECHF24	
6	1/ ₂	12	ECHF16	
	3/ ₄	12	ECHF26	
8	1/ ₂	14	ECHF18	
	3/ ₄	14	ECHF28	
10	1/ ₂	16	ECHF110	
	3/ ₄	16	ECHF210	
12	1/ ₂	18	ECHF112	
	3/ ₄	18	ECHF212	
15	1/ ₂	21	ECHF115	
	3/ ₄	21	ECHF215	
18	1/ ₂	24	ECHF118	
	3/ ₄	24	ECHF218	



EAHC and **EFHC 7**L **Luminaire Hangers**

For Pendant Mount

Cl. I, Div. 1 & 2, Groups A*, B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

Explosionproof Dust-Ignitionproof

Applications:

EAHC and EFHC Luminaire Hangers are for use in hazardous areas to:

- Suspend explosionproof pendant luminaires from the conduit system
- · Function as both conduit outlet box and luminaire hanger

Features:

- Through-feed hubs are provided for threading the conduit directly into the hanger body
- · Has large threaded cover for accessibility and ease of wiring
- · Bottom hub, threaded or union style, is equipped with set-screws to securely lock luminaire stem in place; takes conduit stem or EC flexible luminaire hanger for stems longer than 12" (in compliance with NEC Article 501 and CEC Part I Section 18)

Certifications and Compliances:

• NEC/CEC:

EAHC -

Class I, Groups A, B, C, D Class II, Groups E, F, G Class III

EFHC -

Class I. Groups C. D Class II, Groups E, F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies Feraloy® iron alloy
- Covers copper-free aluminum

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural

Ontions

Options:
Description Suffix Finish - Corro-free™ epoxy enamel \$752
Suspension attachment for span wire or threaded rod (see listings) S1
Mounting strap (see listings) \$294

Size Ranges:

- Conduit hubs 3/4" and 1"
- Luminaire stem 1/2" and 3/4"
- Luminaire weight 125 lbs.

EAHC* and **EFHC**



With Union Hub



With Threaded Hub

Ordering Information: Threaded Union

	Luminaire Stem Size	Hub for Luminaire Stem Cat. #	Hub for Luminaire Stem Cat. #
EAH	C*		
2/	1/2	EAHC2701	EAHC2601
3/4	3/4	EAHC2702	EAHC2602
	1/2	EAHC3701	EAHC3601
1	3/4	EAHC3702	EAHC3602
EFH	С		
3/	1/2	EFHC2701	EFHC2601
3/4	3/4	EFHC2702	EFHC2602
4	1/2	EFHC3701	EFHC3601
ı	3/4	EFHC3702	EFHC3602

Mounting Strap



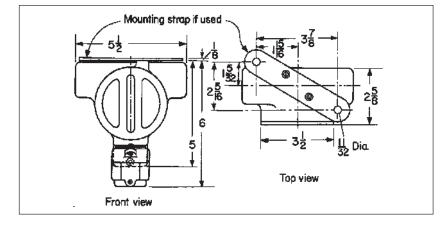
Mounting strap can be furnished to fasten luminaire hangers to mounting surface, independent of conduit straps. To order, add suffix S294 to EAHC or EFHC Cat. No.

Suspension Attachment



EAHC and EFHC hangers can be furnished with a loop fastened to the top of the body to suspend luminaire and conduit from vertical support rods or horizontal span wires. The loop will take a wire or cable with a maximum diameter of 3/8". The boss on top of the loop is tapped 3/8"-16 to accept a threaded rod. To order, add suffix S1 to Cat. No.

Dimensions In Inches:



*EAHC only.

Explosionproof

Dust-Ignitionproof

EFH Flexible Cushion Luminaire Hangers

For Pendant Mount

Cl. I, Div. 1 and 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

Applications:

EFH Flexible Cushion Luminaire Hangers are used in hazardous locations:

- Where a luminaire must hang more than 12" from its supporting junction box (as required by NEC Article 501 and CEC Part I Section 18)
- To assure that luminaires hang plumb and will swing freely if accidentally struck; prevents damage to luminaire, stem, and supporting outlet box
- To provide a cushion support, prolonging lamp life and protecting the luminaire from shock and vibration; for luminaires weighing up to 65 lbs.

Features:

- Complies with NEC Article 501 and CEC Part I Section 18
- · Free swinging in any direction through an angle of 15 degrees from perpendicular
- · Weight of luminaire is supported by a high strength brass bellows and a stainless steel cushioning spring
- Two part assembly consisting of luminaire hanger cover and CPS12 outlet box; provides a wide variety of conduit arrangements; a set-screw locks the conduit stem in place

Certifications and Compliances:

• NEC/CEC:

Class I, Groups C, D Class II, Groups E, F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

• Feraloy® iron alloy

Standard Finishes:

· Electrogalvanized and aluminum acrylic

Size Ranges:

- Conduit hubs $\frac{3}{4}$ " with $\frac{3}{4}$ " to $\frac{1}{2}$ "
- Luminaire stem 1/2" and 3/4"
- Luminaire weight 65 lbs. max.



Size	Cat. #
1/ ₂ 3/,	EFHX111 EFHX221

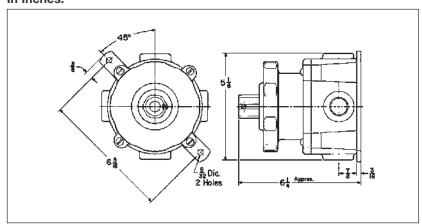


Cushion Luminaire **Hanger Only**

•	+	_		
0	ι	u	1	
_				

Size	Cat. #
1/ ₂ 3/ ₄	EFH01 EFH02

Dimensions In Inches:



*Furnished with four */4" standard taper tapped, integrally bushed hubs. Each hub as a */4" to */2" reducer. Three hubs are plugged.

Applications:

CPS Series Conduit Outlet Boxes are installed in conduit systems in hazardous areas to:

- Protect conductors in threaded rigid conduit
- · Act as pull and splice boxes
- · Change conduit direction
- Interconnect lengths of conduit
- Act as luminaire hangers with hub covers
- Provide access to conductors for maintenance and future system changes

Features:

CPS Conduit Outlet Boxes have:

- Two types of cover:
 - -Blank for splice or pull box use
 - -Threaded hub for mounting luminaires
- Wide, accurately machined body and cover mating surfaces, to ensure flame-tight joint
- Blind tapped holes for cover screws to further ensure flame-tightness
- Removable mounting feet for flush or surface mounting to wall or ceiling

Certifications and Compliances:

• NEC/CEC:

Class I, Groups C, D Class II, Groups E, F, G Class III

• UL Standard: 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

• Feraloy® iron alloy

Standard Finishes:

• Electrogalvanized and aluminum acrylic paint

Options:

Description

Corro-free™ epoxy enamel

Suffix (information available on request)



Box with Hub Cover

Hub Size Body*	Cover	Cat. #
1/2 and 3/4	1/2	CPS12021
1/2 and 3/4	3/4	CPS12022



Body	
Hub Size*	Cat. #
1/- and 3/-	CDS12



Box with Blank Cover

Hub Size	Cat. #
1/2 and 3/4	CPS12026

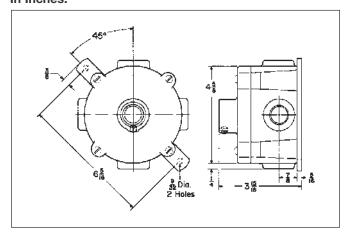


Hub Covers

Hub Size	Cat. #
1/2	CPS021
3/4	CPS022

*Furnished with four 3/4" standard taper tapped, integrally bushed hubs. Each hub has a 3/4" to 1/2" reducer. Three hubs are plugged.

Dimensions In Inches:



GUA Series Outlet Bodies and Luminaire Hanger **Covers**

Cl. I, Div. 1 & 2, Groups C, D Explosionproof Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

Dust-Ignitionproof

Applications:

GUA, GUF and GUJ Outlet Bodies are

• With luminaire canopies, union hub and nipple covers for mounting EVA, EVM, EVLP, and EVF luminaires

Features:

- A threaded cover opening in the side of the canopy permits access to the interior for making splices or taps
- The luminaire with its conduit stem and canopy is wired before installation, which eliminates wire twisting when the canopy is screwed into the outlet body
- Union hub covers permit the cover to be screwed into the body without twisting
- · All covers have set-screws to lock the conduit stem or EC series flexible luminaire support firmly to the cover

Certifications and Compliances:

NEC/CEC:

Class I, Groups C, D Class II, Groups E, F, G Class III

• UL Standard: 1203

CSA Standard: C22.2 No. 30

Standard Materials:

Outlet bodies:

- GUA Series Feraloy iron alloy
- GUFX copper-free aluminum

Luminaire hanger covers:

- GUA068 Feraloy iron alloy
- GUA0687, GUA0672 copper-free aluminum

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural

Options:

Description	Suffix
Finish - Corro-free™ epoxy	
enamel	S752

Size Ranges:

- Bodies 1/2" to 1" hubs
- Canopies 1/2", 3/4" and 11/4" luminaire
- Union hub and nipple covers 1/2" and 3/4" luminaire stem



GUA

Hub Size (In.)	Cat. #	
1/2	GUA160	
3/4	GUA260	
1	GUA360	



GUAT

Hub Size (In.)	Cat. #
1/2	GUAT160
3/4	GUAT260
1	GUAT360



GUAC

Hub Size (In.)	Cat. #	
1/2	GUAC160	
3/4	GUAC260	
1	GUAC360	



GUAX

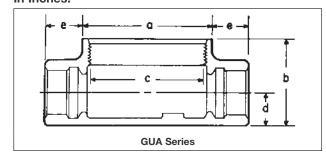
Hub Size (In.)	Cat. #	
1/2	GUAX160	
3/4	GUAX260	
1	GUAX360	



GUAL

Hub Size (In.)	Cat. #	
1/2	GUAL160	
3/4	GUAL260	
1	GUAL360	

Dimensions In Inches:



Hub Size	а	b	С	d	е	
1/2	31/2	2	3	5/8	7/8	
3/4	31/2	2	3	3/4	⁷ / ₈	
1	31/2	25/16	3	7/8	1	

GUFX



Hub Size	Cat. #	
1/2	GUFX160	
3/4	GUFX260	

Luminaire Hanger Covers For GUA and GUF Series Junction Boxes

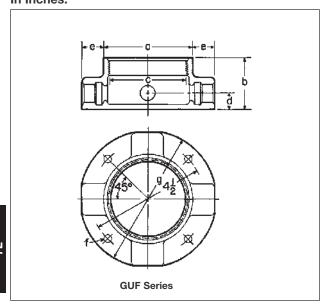




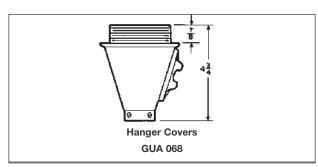


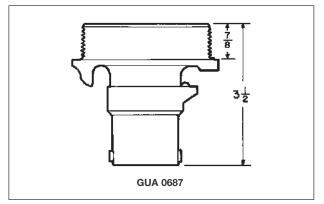
Cover	Stem		Luminaire Covers Union Hub Cat. #	Nipple Covers Cat. #
3	3/4	GUA068	GUA0687	GUA0672

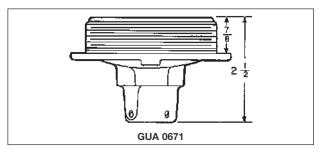
Dimensions In Inches:



Hub Size	а	b	С	d	е	f	g
1/2	31/2	2	3	5/8	7/8	5/16	53/8
3/4	31/2	2	3	3/4	7/8	5/16	53/8
1	31/2	23/8	3	7/8	1	5/16	5 ³ / ₈







7L

Explosionproof Dust-Ignitionproof

Adjustable Luminaire Hanger

UNR

Hub

Size

Angle

0° to 90°

Adjustment

Cat. #

UNR29

UNR Adjustable Luminaire Hangers; COUP Locking Couplings

For Pendant Mount

Applications:

UNR Adjustable Luminaire Hangers are used in hazardous areas to:

- Mount between a luminaire and its outlet box so that the luminaire can be adjusted within the range of 0 degrees to 90 degrees
- Permit pendant type luminaires to illuminate vertical surfaces such as a control board
- Hang luminaires plumb when the supporting outlet box is not horizontal

Features:

The luminaire is nippled onto one end of the UNR, and the other end of the UNR is nippled into the support outlet box

- Set-screws are located on each end to lock the nipples in place to prevent loosening in relamping or from vibration
- Adjustment of UNR to the angle setting needed provides for the desired angle of the luminaire
- Degree markings are cast into the UNR
- Two set-screws and a large stud and nut are provided, which are tightened to clamp the unit rigid

Certifications and

Cl. I, Div. 1 & 2, Groups C, D

Cl. II, Div. 1, Groups E, F, G

Cl. II, Div. 2, Groups F, G

• NEC:

Class I, Groups C, D Class II, Groups E, F, G Class III

• UL Standard: 1203

Compliances:

CI. III

Standard Materials:

Feraloy iron alloy

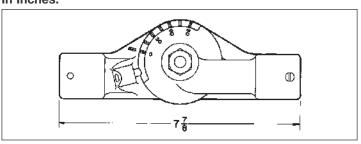
Standard Finishes:

Electrogalvanized and aluminum acrylic paint

Size Ranges:

- Hub 3/4"
- Luminaire weight 125 lbs.

Dimensions In Inches:



Applications:

COUP Locking Couplings are used in both hazardous and non-hazardous areas to:

- Lock a luminaire conduit stem into a conduit hub to prevent the conduit stem from loosening when the luminaire is relamped and torque transferred to luminaire stem
- Prevent loosening of luminaire stem due to vibration
- Hang pendant type luminaires from standard cast outlet boxes which do not have set-screws in the hub where the luminaire stem is attached

Features:

- The large end is slipped over the cast hub and the set-screws tightened; the luminaire stem is slipped through the small end and threaded securely into the cast hub; the set-screws in the small end are then tightened, thereby preventing the stem from turning
- Permits support of luminaire from conduit hub of a hazardous location outlet body

Certifications and Compliances:

• UL Standard: 1203

Standard Materials:

• Feraloy iron alloy

Standard Finishes:

Electrogalvanized and aluminum acrylic paint

Size Ranges:

- Hub size 1/2" to 1'
- Stem size $\frac{1}{2}$ " and $\frac{3}{4}$ "





Hub Size	Stem Size	Cat. #
1/2	1/2	COUP101
3/4	1/2	COUP201
3/4	3/4	COUP202
1	3/4	COUP302

Portable Lighting Hazardous and Non-hazardous

Description	Page No.
Application/Selection	see page 1182
Hand Lamps	
VS Series Incandescent	see page 1183
EVH Series Incandescent	see page 1184
EVH Series Fluorescent	see pages 1188-1189
Portable Floodlights	
RCDER Series Incandescent	see page 1185
EVP Series H.I.D.	see page 1187
Work Lights	
EVH Series Fluorescent	see pages 1188-1189

8L

Portable Lighting

Hazardous and Non-hazardous Locations Application and Selection Quick Selector Chart

Applications:

Portable luminaires and accessories can be used:

- In areas made hazardous by the abnormal presence of flammable gases and vapors, combustible dusts, or easily ignitable fibers and flyings
- In areas where combustible dusts and flammable gases are present simultaneously
- In aircraft manufacturing and maintenance facilities, shipyards, paint spray booths, refueling depots, storage tank cleanings, railcar manufacturing and maintenance facilities, refineries, chemical and petrochemical plants, textile mills, grain elevators, pharmaceutical plants, sewage treatment plants, and wastewater treatment plants
- During plant 'shut downs' for maintenance and installation requirements
- In any adverse environment where portable lighting is preferred or required
- In locations where fixed lighting is not practical
- For task oriented lighting
- · For emergency lighting applications
- When inspecting aircraft wing tanks, vats, process vessels, fuel tanks, etc. (hand lamps)

Considerations for Selection:

Environmental:

- What is the hazardous area classification (NEC/CEC) of the location in which the luminaires will be installed?
- What wattages and light source (ie. fluorescent) will provide the desired light levels?
- Type of luminaire required: handlamp, portable flood, or other special requirements

Table 500.8(C) Identification Numbers.

Maximum Temperature		Temperature Class
Deg. C	Deg. F	(T Code)
450	842	T1
300	572	T2
280	536	T2A
260	500	T2B
230	446	T2C
215	419	T2D
200	392	T3
180	356	T3A
165	329	T3B
160	320	T3C
135	275	T4
120	248	T4A
100	212	T5
85	185	T6

Quick Selector Chart

Gaick Delector Orial t			
Luminaire	NEC Hazardous Area Compliances	Lamp Watts	Volts
EVH Hand Lamp (Incandescent)	Cl. I, Groups C and D Cl. II, Group G Cl. III	100 max.	250 VAC
EVH Hand Lamp (Fluorescent)	Cl. I, Groups C and D Cl. II, Groups E, F, G Cl. III	13, 15	120, 220-50
EVP	Cl. I, Groups C and D Cl. II, Groups F and G Cl. III	35-150	120, 277, 347
RCDER	Cl. I, Groups C and D	150-500	
VS	Non-hazardous areas	100 max.	

Applications:

The incandescent VS Portable Hand Lamps are used:

- In wet or corrosive locations to exclude moisture, dirt, corrosive chemicals, etc.
- Where an incandescent lamp of up to 100 watts is required in a portable hand lamp

Features:

- Enclosed and gasketed
- Flexible cord or cable is attached through a watertight gland in the handle
- · Is of rugged construction
- Clamp type guard available
- Provision is made in the lamp receptacle for a third conductor to ground all noncurrent carrying metal parts

Certifications and Compliances:

- Weather resistant
- UL Standard: 298

(Note: CEC/CSA Certified VS Hand Lamps - Eaton's Crouse-Hinds Canada fixtures only).

Standard Materials:

- Handle molded rubber
- Globe clear, plain glass
- Guard cast aluminum or steel wire

Standard Finishes:

- Handle natural
- Guard zinc plated

Size Ranges:

- Up to 100 watt, A-23 lamp
- 0.250 to 0.625 cord O.D.



(No Cable Included)

Globe Length	Max. Lamp Size	Cord Dia.	Rubber Cat. #
67/8"	100W A-23*	0.125 to 0.625	VS30

Note: Furnished with clear globe, wire guard and 4 rubber bushings.

Glass Globes

Polycarbonate Globes





Description	Maximum Lamp Size	Cat. #
Clear Glass, (Heat Resisting)	100W, A-23 - 6 ⁷ / ₈ "*	V63
Clear, Polycarbonate, Plain	75W, A-21"*	V470

Guards



Description	Size	Cat. #
Stool Wire	67/a" Globe	VS07

Lamp Receptacle (medium base)



Description	Size	Cat. #	
Composition keyless	660W, 600V	GS156	

Cord Gland Bushings



Description	Size	Cat. #
Dubban	0.125 to 0.250 Cord	BUSH92
	0.250 to 0.375 Cord	BUSH93
Rubber	0.375 to 0.500 Cord	BUSH94
	0.500 to 0.625 Cord	BUSH05

*Will take lamps with maximum dimensions of 6'/₂" long and $2^{7}\!/_{\!8}$ " diameter.

EVH Portable Hand Lamp 8L

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1 & 2, Group G CI. III Cl. I, Zone 1 IIB

Applications:

EVH106 is used:

- As a portable hand lamp in hazardous
- In inspecting aircraft wing tanks, vats, process vessels, fuel tanks, etc.

Features:

- Pressure connector terminals for portable cord
- Lightweight 4¹/₄" lbs.
- Designed for rough service swivel hook, ease in relamping

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 and 2, Groups C, D -100 watts max.

Class I, Zone 1 IIB

Class II, Division 1 and 2, Group G - 75 watts max.

Class III – 75 watts max.

- UL Standard: 781
- CSA Standard: C22.2 No. 137

Standard Materials:

- Guard and globe holder copper-free aluminum
- Handle molded phenolic composition
- Globe glass, heat- and impact-resistant

Standard Finishes:

Natural

Size Ranges:

• #16 - 3 type SO cord/cable is to be used (not supplied)

Capacity Ranges:

- 50 to 100 watt, A-21
- Max. volts 250 VAC

Temperature Performance Data: (based on 40°C Ambient)

T3C
T3C
T3C



Ordering Information

Cat. #	Туре	Cord Dia.
EVH106	Model M10	0.375 to 0.625

Replacement Parts

Description	Cat. #
Guard and globe assembly	EVH606
Handle assembly (including lampholder)	EVH607
Cord connector assembly	EVH605
Lampholder only	EVH:05-279-A

Incandescent

Applications:

RCDER Portable Incandescent Luminaires provide general illumination in locations having hazardous atmospheres, such as:

- Oil refineries
- · Oil and gasoline loading docks
- · Aircraft servicing docks and shelters
- Distilleries
- Paint manufacturing plants
- · Pumping stations
- · Other Class I, Groups C and D locations

Features:

- Wheel base
- · Carrying handle
- Adjustment allows rotation of 75° vertically
- Locking screws hold housing firmly in position
- Door which threads into housing includes heat- and impact-resistant lens; door has notches or projections for ease of removing or tightening
- · Factory-sealed

Certifications and Compliances:

RCDER - Class I, Division 1 and 2, Groups (C), D; Class I, Zone 1 II(B) A (see photometric data listing)

- 6 only)

Hinds Canada luminaires only).

Standard Materials:

- Body copper-free aluminum
- Lens glass, heat- and impact-resistant

Standard Finishes:

Natural

Size Ranges:

• Take cable with O.D. of 0.375" to 0.500"

Capacity Ranges:

- RCDER-6 150 watt, PAR38 or R40; 300 watt, R40 (medium base)
- RCDER-10 500 watt. PAR64 (Ext. Mog End Prong)

Ordering Information:

After identifying the hazardous area, select the model of luminaire required for that area. Then from the photometric data, select appropriate Cat. No. based on type of mounting desired (Example: RCDER-10 No. 47283A).

RCDER-6





RCDER-10



Cat. No. 47283A

• NEC/CEC:

- UL Standard: 844
- CSA Standard: C22.2 No. 137 (RCDER-

(Note: CEC/CSA Certified RCDER6 - Eaton's Crouse-

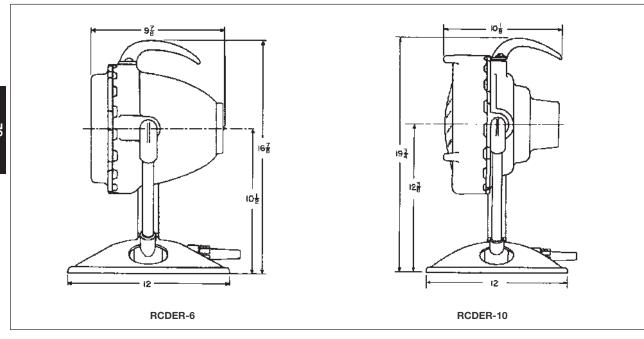
Temperature Performance Data: (based on 40°C Ambient)

(based on 40 O Ambient)						
	150W	300W	500W			
RCDER-6	T3B	T2B				
RCDER-10			T3C			

RCDER Photometric Data:

		Beam Spread			
Lamp Watts and Type	Location	Hor.	Vert.	Beam Lumens	Av. Max. Candle Power
RCDER-6 150 Watt PAR38 Flood 150 Watt	Class I, Groups C, D	60°	60°	1690	4000
PAR38 Spot	(Zone 1 IIB)	28°	28°	1200	11500
300 Watt R40 Flood	Class I,	123°	123°	3200	1950
300 Watt R40 Spot	Groups D (Zone 1 IIA)	60°	60°	3100	8900
RCDER-10 500 Watt, PAR64 (500 PAR64/NSP)	Class I,	19°	14°	3000	110000
500 Watt, PAR64 (500 PAR64/MFL)	Group D	35°	19°	3300	37000
500 Watt, PAR64 (500 PAR64/WFL)	(Zone 1 IIA)	55°	32°	3400	13000

Dimensions In Inches:



Fixture Weights:

	Cat. #	Lbs. (Net)
RCDER-6	44655	26.0
RCDER-10	47283	25.0

Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1 & 2, Groups F, G CI. III Cl. I, Zone 1 IIB

Wet Locations Marine Locations

Applications:The EVP Portable H.I.D. Floodlight† is suitable for maintenance or emergency

- In areas made hazardous by the presence of flammable gases and vapors, combustible dusts, or easily ignitable fibers and flyings
- · In aircraft manufacturing and maintenance facilities, shipyards, refueling depots, storage tank cleaning, railcar manufacturing and maintenance facilities, refineries, chemical and petrochemical plants, textile mills, grain elevators and pharmaceutical plants, printing operations, wastewater, and sewage treatment plants
- In any adverse environment where portable lighting is preferred or required
- In locations where lighting is not practical
- For task oriented lighting

Certifications and Compliances:

- EVP and EVPG
- NEC/CEC:

Class I, Division 1 & 2, Groups C, D Class I. Zone 1 IIB Class II, Division 1 and 2, Groups F, G Class III

Wet Locations Marine Locations

- UL Standards: 781, 595, 1572
- CSA Standard: C22.2 No. 137, No. 12

Standard Materials:

- Housing copper-free aluminum
- Wheel base spun aluminum
- Handle plastic rib covered aluminum
- Reflector aluminum
- O-ring gasket Nitrile rubber

Electrical Ratings:

High pressure sodium - (medium base)

- 70, 100, & 150 watt
- 120 volt 60 Hz

Metal Halide - (double end)

- 120, 277 & 347 volt; 60 Hz

Key Features Benefits

- wheel base
- Sturdy hand knob
- · Plastic rib covered handle
- Aluminum specular reflector
- Tempered, 3/4" thick cover glass
- Nitrile rubber O-ring gasket
- Strain relief clamps
- · Pre-wired, factorysealed 100' of 16/3 type SOW cord supplied
- Lightweight (25 lbs.)
- Fixture housing has a safety yellow finish

- Strong spun aluminum Provides stability, allows fixture to be hung on a wall or lowered in an inverted position
 - Tightens to hold position for steady illumination and easy aiming
 - Firm, non-slip grip for transporting fixture
 - Directs intense beam for better visibility
 - · Heavy duty service
 - · Excellent sealing for use in wet locations
 - · Provides extra protection against cord damage
 - · Saves on installation time and maintenance costs
 - Easy to handle when transporting
 - Highly visible for safety precautions



Cat. #

EVPG4100

EVPG9070

EVPG9070/277

EVPG9070/347

8

Ordering	Information:
Cl. I, Div. 1, G	roups C, D

Ordering Information: Cl. I, Div. 1, Groups C, D		Cl. I, Div. 1, Groups C, D Cl. II, Div. 1, Groups F, G	
Cl. II, Div. 1, Group F	Cat. #	CI. IIÍ	
70 watts HPS, 120 volts	EVP4070	100 watts HPS, 120 volts	

70 Walls APS, 120 Volls	EVP40/0	100 Walls HPS, 120 VO
100 watts HPS, 120 volts	EVP4100	70 watt MH, 120 volts
150 watts HPS, 120 volts	EVP4150*	70 watt MH, 277 volts
70 watt MH, 120 volts	EVP9070	70 watt MH, 347 volts
70 watt MH, 277 volts	EVP9070/277	
70 watt MH 347 volts	EVP9070/347	

Note: Fixtures for grain dust applications have a special limiting device to prevent the fixture head from being positioned in an upright position limiting dust build-up

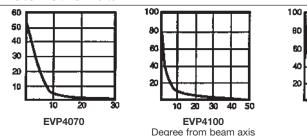
Temperature Performance Data:

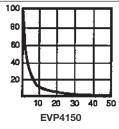
-		Class I, Division 1		Class II, Division 1	
Cat. #	Max. Ambient °C	T-Rating	Groups	T-Rating	Groups
EVP4070	40	T4A	C, D	T3	F
EVP4100	40	T4A	C, D	T3	F
EVP4150	25	T3C	C, D	_	_
EVP9070	40	T4	C, D	T3	F
EVPG4100	40	T4A	C, D	T3C	F, G
EVPG9070	40	T4	C, D	T4	F, G

Fixture Weight:

• 25.5 lbs.

Photometric Data:





Dimensions: $12^{1}/_{2}$ " D × $13^{1}/_{8}$ " W × $15^{7}/_{8}$ " H

†EVP fixtures are not supplied with plug. *Class II not available

EVH Fluorescent Hand Lamps & Work Lights

Cl. I, Div. 1 and 2, Groups C, D

Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G

CI. III

Cl. I, Zone 1 IIB

Applications:

Portable hand lamps and work lights can be used:

- In areas made hazardous by the presence of flammable gases and vapors, combustible dusts, or easily ignitable fibers and flyings
- In aircraft manufacturing and maintenance facilities, shipyards, refueling depots, storage tank cleaning, railcar manufacturing and maintenance facilities, refineries, chemical and petrochemical plants, textile mills, grain elevators, pharmaceutical plants, sewage treatment plants. and wastewater treatment plants
- During plant 'shut downs' for maintenance and installation requirements
- In any adverse environment where portable lighting is preferred or required
- In locations where fixed lighting is not practical
- For task oriented lighting
- · For emergency lighting applications
- When inspecting aircraft wing tanks, vats, process vessels, fuel tanks, etc.

Features:

- Built-in metal reflector which eliminates glare and blinding, focusing all light on subject
- Protected by patented shock absorbers to withstand rough usage
 Enclosed ballast, remote from light source for easier handling and
- Enclosed ballast, remote from light source for easier handling and maneuverability
 Special rubber compound humber duards and end cans combiner
- Special rubber compound bumper guards and end caps combined with cast guard and metal rods, protecting against damage from falling objects, bumping, or dropping
- Luminaires come complete with lamp(s) and cord
- The new EVH2625E and EVH2650E incorporate an electronic ballast in the handle for efficiency, cool operation, and easy handling

Certifications and Compliances:

• NEC: Fluorescent Work Lights (15 watt units)

Class I, Division 1 and 2, Group D

Class I, Zone 1 IIB

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

• NEC: Fluorescent Hand Lamps (13 and 26 watt units)

Class I, Division 1 and 2, Groups C, D

Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

- FM: Classification 3615
- CSA: C22.2

Standard Materials:

- Body and inline ballast unit aluminum
- Tube shield annealed glass
- Bumper guards rubber

Standard Finishes:

- Aluminum body white epoxy (hand lamps)
 Aluminum body natural (work lights)
- Inline ballast unit natural
- Rubber bumper guards safety yellow

Options:

Description

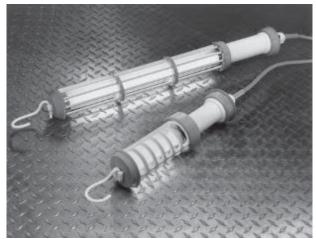
An isolated ballast is available on the EVH 13 Watt hand lamps for additional protection

Size Ranges:

• Supplied with 18 / 3 SOW cord (25 ft or 50 ft)

Electrical Ratings:

- 13 to 26 Watts
- Max. volts 220VAC



Temperature Performance Data: Based on 40°C Ambient Temperature

	Class I, Div. 1		Class II, Div	. 1
Cat. #	T-Rating	Groups	T-Rating	Groups
EVH1525	T5	D	T5	E, F, G
EVH1550	T5	D	T5	E, F, G
EVH1325	T5	C, D	T5	E, F, G
EVH1350	T5	C, D	T5	E, F, G
EVH2625	T3	C, D	T3	E, F, G
EVH2650	T3	C, D	T3	E, F, G
EVH1325 IB	T5	C, D	T5	E, F, G
EVH1350 IB	T5	C, D	T5	E, F, G
EVH2625E	T6	C, D	T6	E, F, G
EVH2650E	T6	C, D	T6	E, F, G

Ordering Information: EVH Fluorescent Work Lights

Line Voltage	Watts	Cord Length (ft.)	Lamp Type	Cat. #
60 Hz				
120	15	25 ft.	F15T8	EVH1525
120	15	50 ft.	F15T8	EVH1550

EVH Fluorescent Hand Lamps (with Magnetic Ballast in Cord)

Line Voltage	Watts	Cord Length (ft.)	Lamp Type	Cat. #
60 Hz				_
120	13	25 ft.	F13TT	EVH1325
120	13	50 ft.	F13TT	EVH1350
120	26	25 ft.	F26DTT	EVH2625
120	26	50 ft.	F26DTT	EVH2650
50 Hz				
220	13	25 ft.	F13TT	EVH1325/220 50
220	13	50 ft.	F13TT	EVH1350/220 50
220	26	25 ft.	F26DTT	EVH2625/220 50
220	26	50 ft.	F26DTT	EVH2650/220 50

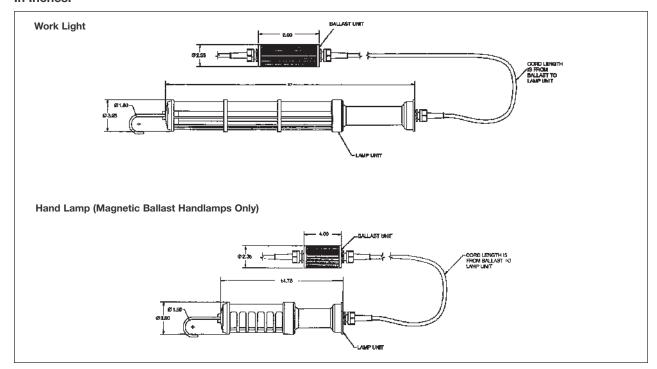
EVH Fluorescent Hand Lamps (with Electronic Ballast in Handle)

Line Voltage	Watts	Cord Length (ft.)	Lamp Type	Cat. #
60 Hz				
120	26	25 ft.	CF26DD/E/841	EVH2625E
120	26	50 ft.	CF26DD/E/841	EVH2650E

EVH Fluorescent Hand Lamps & Work Lights

Dimensions

In Inches:



Exit Signs and Emergency Luminaires Hazardous and Non-hazardous

Description	Page No.
Exit Signs	
EXL Series	see pages 1192-1193
EVLPF(B)-EXD	see page 1194
DMVF(B)-EXD	see page 1195
Ex-Lite	see page 1207
CCH UX Series	see page 1208
Light-Pak™ – Emergency Lighting Systems ELPS Series N2LPS Series	see page 1196 see pages 1198–1200
Remote Luminaire Heads	
EVLA	see page 1196
N2RF	see pages 1198-1200
Compact Fluorescent Emergency Luminaires	
CPMVFB	see pages 1201-1202
DMVFB	see pages 1203-1204
EVLPFB	see pages 1205-1206

Factory-sealed

Applications:

EXL Exit Signs are used:

- In locations deemed hazardous due to the presence of flammable vapors or gases, or combustible dusts
- In any building or enclosed area where people work - where illuminated exit signs are required
- To provide distinct, highly visible exit
- · To indicate the direction of travel to exits

Features:

- Two incandescent lamps (not included) wired in parallel - to provide extra margin of light source reliability
- · Solid state circuit for extended lamp life
- Six inch red letters on white acrylic sign panel make word "exit" stand out boldly and clearly
- Edge lighting characteristic of sign panel makes visibility excellent at all lighting
- Factory-sealed explosion proof housing
- · Pendant, wall, and end bracket mounts provide universal installation options
- · Impact-resistant acrylic sign panel needs no guard - makes cleaning easy
- Internal rectifier extends lamp life beyond 1,000-hour rated life - reduces relamping cost
- · Relamping tool provided

Certifications and **Compliances:**

• NEC:

Class I, Groups C, D Class II, Groups E, F, G

- UL Standard: 844
- NFPA Life Safety Code No. 101-1991

Standard Materials:

- Body copper-free aluminum
- Sign panel acrylic

Conduit Entrance:

• 3/4" hubs

Lamp Wattage:

- Two 60 watt, 60T10 clear lamps for AC units
- Two 25 watt, 25T10 clear lamps for DC units
- Lamps not included with luminaire

Electrical Ratings:

• 120VDC or 120VAC operation

T3C

Temperature Performance

(for both AC & DC operation): Ambient Class I (C, D) Supply Temp. (°C) Class II (E, F, G) Wire °C 25 T3C 150°C

Ordering Information:

When ordering an EXL Series Exit Sign, you will need to specify: (A) Voltage (120VAC or 120VDC)

- (B) Mounting (Wall, End Bracket, or Pendant)

(C) Exit Sign Designation

All units come standard with 3/4" hubs and exit signs with red lettering and white background. Complete catalog numbering

	EXL (A) 2	
(A)	Voltage:	120VAC leave blank
		120VDC D
(B)	Mounting:	Wall 1
		End Bracket 2
		Pendant 3
(C)		Designation:
	A	Single Face (Wall Mount)
	AA	Double Face (End Bracket
		& Pendant)
	AB	Double Face, one side
		arrowhead right, the other
		no arrowhead (End Bracket
	4.0	& Pendant)
	AC	Double Face, one side
		arrowhead left, the other no
		arrowheads (End Bracket &
	AD	Pendant) Double Face, one side
	AD	arrowhead both ends, the
		other no arrowheads (End
		Bracket & Pendant)
	В	Single Face, arrowhead
	В	right (Wall Mount)
	BC	Double Face, one side
	20	arrowhead right, the other
		arrowhead left (End Bracket
		& Pendant)
	BD	Double Face, one side
		arrowhead both ends, the
		other arrowhead right (End
		Bracket & Pendant)
	С	Single Face, arrowhead left
		(Wall Mount)
	CD	Double Face, one side
		arrowhead both ends, the
		other arrowhead left (End

Bracket & Pendant)

Bracket & Pendant)

Single Face, arrowhead both ends (Wall Mount)

Double Face, both sides arrowhead both ends (End



Pendant Style



End Bracket Style



Wall Style

Mounting Type	Sign Panel Description	Hub Size (In.)	AC Cat. #	DC Cat. #
Wall	Single face	3/4	EXL21A	EXLD21A
End Bracket	Double face	3/4	EXL22AA	EXLD22AA
Pendant	Double face	3/4	EXL23AA	EXLD23AA

Options:

D

DD

- p	
Description	Suffix
Exit signs with green lettering on white background	GN
Unit provided with epoxy powder coat	S752
277VAC - (Order ECT413 Transformer Separately)	

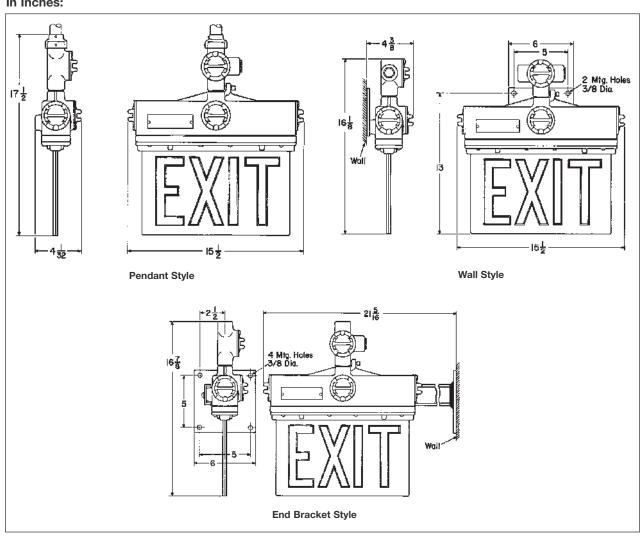
Crouse-Hinds by FAT-N

40

9

Factory-sealed Dimensions

Dimensions In Inches:



9L **EVLPF(B)** – **Exit Sign Fluorescent Luminaire**

Cl. I, Div. 1, Groups B (suffix GB), C, D Cl. I, Zone 1, Groups IIB + H₂ (GB suffix), IIB Cl. II, Div. 1, Groups E, F, G; Class III, Simultaneous Presence

Marine & Wet Locations 3, 3R, 4, 4X; **IP66**

Applications:

EVLPF(B)-EXD Exit Signs are used:

- In any building or enclosed area where people work - where illuminated exit signs are required
- To provide distinct, highly visible exit marking
- · To indicate the direction of travel to exits
- In locations deemed hazardous due to the presence of flammable vapors, gases, or combustible dusts

Features and Benefits:

- Six inch red letters on white glass sign panel make the word "EXIT" stand out boldly and clearly
- Lightweight copper-free aluminum housing with powdered epoxy finish
- · All exterior hardware is corrosionresistant stainless steel
- · Three mounting arrangements: pendant, ceiling, and wall bracket
- Integral ballast
- High power factor (90%+) ballasts
- · Easier assembly, installation, and maintenance
- Outdoor, hose down, marine and corrosive environments suitable
- Ideal for adverse environments typical of industrial facilities
- · Ground wire for safety
- · Optional battery back-up for operation during power outage

About the Battery:

- · Bodine fluorescent battery pack ballasts are UL component recognized
- Sealed, maintenance-free, high temperature nickel cadmium
 - Solid state chargers are sealed inside the ballast case
 - 90 minute illumination time
 - 10-year life expectancy
 - 2-year full warranty
 - During emergency use 1 lamp has continuous operation
 - · Red indicator light indicates the battery is charging
 - · Wiring instructions for a "Push-to-Test" button is supplied with the luminaire

Energy Savings:

· Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output

Certifications and Compliances:

• NEC and CEC:

Class I, Division 1, Groups B (GB suffix), C, D

Class I, Zone 1, Groups IIB + H2 (GB Suffix), IIB, IIA

Class II, Class III & Simultaneous Presence (Class I and Class II)

UL Standards:

844 Hazardous (Classified) Locations 1598 Luminaires 1598A Marine Locations

 CSA Standards: C22.2 No. 137

Standard Materials:

- Mounting modules, cover, ballast housing, globe holder - copper-free aluminum
- Globe heat- and impact-resistant glass
- Exterior hardware stainless steel

Standard Finishes:

 Copper-free aluminum – Corro-free™ powdered epoxy



Ratings (Electrical/Size):

Sources/wattage:

- 52W (2-26W lamps)
- 120-277V, 50-60 Hz
- 120V, 60 Hz
- 347V. 60 Hz

Conduit entries:

• 3/4", 1" NPT - pendant, wall bracket, ceiling

Options:

Description	Suffix
Group B suitability Factory assembled with lamps	GB FA

Ordering Information: Supply

Mounting Type	Voltage Volts/Hertz	Fluorescent Cat. #	Fluorescent with Battery Back-up Cat. #
Pendant	120-277V / 50-60 Hz 120V / 60 Hz (Canada) 347V / 60 Hz	EVLPFA02520/UNV EXD EVLPFA02520/347 EXD	EVLPFBA02520/UNV EXD EVLPFBA02520/120CAN EXD EVLPFBA02520/347 EXD
Ceiling	120-277V / 50-60 Hz 120V / 60 Hz (Canada) 347V / 60 Hz	EVLPFCX02520/UNV EXD EVLPFCX02520/347 EXD	EVLPFBCX02520/UNV EXD EVLPFBCX02520/120CAN EXD EVLPFBCX02520/347 EXD
Wall	120-277V / 50-60 Hz 120V / 60 Hz (Canada) 347V / 60 Hz	EVLPFBX02520/UNV EXD EVLPFBX02520/347 EXD	EVLPFBBX02520/UNV EXD EVLPFBBX02520/120CAN EXD EVLPFBBX02520/347 EXD

DMVF(B) – Exit Sign **Fluorescent Luminaire**

Cl. I, Div. 2; Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

Cl. II, Groups E, F, G, Cl. III & Simultaneous Presence Marine & Wet Locations 3, 3R, 4X; IP66

Applications:

DMVF(B) Exit Signs are used:

- · In any building or enclosed area where people work
- · Where illuminated exit signs are required
- To provide distinct, highly visible exit markings
- · To indicate the direction of travel to exits
- In locations deemed hazardous due to the presence of flammable vapors or gases, or combustible dusts

Features:

- Six inch letters on white glass sign panel make the word "exit" stand out boldly and clearly
- Housings made of die-cast copper-free aluminum (less than 0.4 of 1% copper) for strength and resistance to corrosion
- Mounting module equipped with integral hub set-screws for vibration resistance (ceiling and pendant mounts)
- · Hubs are provided with an integral conduit stop and bushing to help prevent damage to field wiring during installation
- Epoxy powder finish and stainless steel external hardware for resistance to corrosion
- · Long life gaskets which provide seals between mounting module, housing, and globe assembly
- · Grounding wire for safety
- · Cool operating design
- · Optional emergency battery back-up operation during power outage

About the Battery:

- · Bodine fluorescent battery pack ballasts are UL component recognized
- Sealed, maintenance-free, high temperature nickel cadmium
- · Solid state chargers are sealed inside the ballast case
- 90 minute illumination time
- 10-year life expectancy
- · 2-year full warranty
- During emergency use 1 lamp has continuous operation
- · A red indicator light indicates the battery is charging
- Wiring instructions for a "Push-to-Test" button is supplied with the fixture

Energy Savings:

· Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output

Certifications and Compliances:

• NEC and CEC:

Class I, Division 2, Groups A, B, C, D Class II, Class III & Simultaneous Presence

(Class I, Division 2 and Class II) Class I. Zone 2

IFC:

Zone 2 Ex nR IIC

• UL Standards:

844, 2279 Hazardous (Classified) Locations

1598 Luminaires

1598A Marine Luminaires

CSA Standards:

C22.2 No. 137

• IEC Standards: 60079-15

Standard Materials:

- Ballast housings and mountings copperfree aluminum (less than 0.4 of 1%)
- Exterior hardware stainless steel
- Globe heat- and impact-resistant internally fluted glass

Standard Finishes:

- Aluminum gray epoxy powder coat
- Krydon material high reflectance white
- Stainless steel natural

Ontions:

Suffix
S714
S806
S826
S826TB

Electrical Rating Ranges:

- 52 Watt
- 120-277V, 50-60 Hz
- 120V, 60 Hz
- 347V, 60 Hz

Ordering Information:

Mounting Type	Supply Voltage Volts/Hertz	Fluorescent Cat. #	Fluorescent with Battery Back-up Cat. #
Pendant	120-277V / 50-60 Hz 120V / 60 Hz (Canada) 347V / 60 Hz	DMVF2A052G/UNV EXD DMVF2A052G/347 EXD	DMVFB2A052G/UNV EXD DMVFB2A052G/120CAN EXD DMVFB2A052G/347 EXD
Ceiling	120-277V / 50-60 Hz 120V / 60 Hz (Canada) 347V / 60 Hz	DMVF2C052G/UNV EXD DMVF2C052G/347 EXD	DMVFB2C052G/UNV EXD DMVFB2C052G/120CAN EXD DMVFB2C052G/347 EXD
Wall	120-277V / 50-60 Hz 120V / 60 Hz (Canada) 347V / 60 Hz	DMVF2TW052G/UNV EXD DMVF2TW052G/347 EXD	DMVFB2TW052G/UNV EXD DMVFB2TW052G/120CAN EXD DMVFB2TW052G/347 EXD



9L

ELPS Light-Pak™ Emergency Lighting System

CI. I, Div. 1 & 2, Groups C, D
CI. I, Div. 1 & 2, Groups B, C, D
(with suffix GB)
CI. II, Div. 1, Groups E, F, G
CI. III

CI. I, Zone 1 Simultaneous Presence Wet Locations NEMA 3, 3R, 12

Applications:

ELPS Series Emergency Lighting Systems are used:

- To provide safe, reliable illumination indoors or outdoors to designated areas during failure or interruption of power to the normal lighting system
- In areas made hazardous by the presence of flammable gases and vapors, combustible dusts, or easily ignitible fibers and flyings
- In areas where corrosion, vibration, moisture, dirt, and rough usage may be encountered
- Where required by the National Electrical Code[®], the Life Safety Code, or other codes
- In refineries, chemical and petrochemical facilities, grain processing, handling or storage facilities, manufacturing plants, wastewater treatment facilities, and other areas where safe, reliable, hazardous area emergency lighting is needed

Features:

- Compact factory-sealed luminaire assemblies are each furnished with a 12 watt tungsten-halogen lamp and inner reflector for appropriate photometrics in hazardous areas
- Luminaire assemblies are fully adjustable and lockable on two axes to provide flexible and consistent light aiming capabilities
- Luminaire lens ring is threaded for easy relamping and locks in place with hex head set-screw; will not loosen due to
- Ground joint cover with external flange design permits large opening and easy access to internal components; stud bolts in diagonally opposite corners of body ease cover removal and installation
- Neoprene cover gasket seals out moisture for superior protection of internal components against wetness and corrosion
- Lightweight, compact size, and mounting feet ease installation and allow placement in confined areas
- Two 1" NPT drilled and tapped conduit openings, with plugs, are standard, for choice of top or bottom feed
- Factory-installed PUSH-TO-TEST pushbutton enables easy testing of system
- MAIN POWER ON pilot light indicates AC power is being supplied to the battery charger; pilot light jewel is threaded for easy lamp replacement
- Stainless steel drain minimizes moisture collection; stainless steel breather with aluminum cap provides ventilation, minimizes moisture collection

- CID 101 corrosion inhibitor device is provided with each ELPS system to help protect electrical components and connections
- Rugged, long-life, maintenance-free, nickel cadmium battery provides 30 watts of power for the required 1½ hours
- Solid state battery charger for long life and reliable service prevents deep discharge by automatically disconnecting luminaires from battery
- Terminal block facilitates field wiring connections
- Instruction sheet and maintenance record card provided with unit in a protective plastic envelope
- A time delay is standard; time delay is preset at factory for 5 minute delay but can be field set for 5 seconds or 15 minutes, thus allowing HID type lamps time to restrike and reach desired illumination levels
- Solid state battery charger will accept 120, 220/240 or 277 VAC, 50/60 Hz

Certifications and Compliances:

• NEC:

Class II, Groups B, C, D Class II, Groups E, F, G Class III

Simultaneous Presence

- NEMA: 3R, 12 (ELPS power supply)
- Suitable for wet locations (EVLA fixtures)
- Marine (EVLA fixtures)
- UL Standard:

844 - Electric Luminaire - Hazardous Locations

924 - Emergency Lighting and Power Equipment

1203 - Explosionproof and Dust-Ignitionproof Electrical Equipment

- Life Safety Code:
 - Section 5-9 (Emergency Lighting)
- Suitable for Wet Locations
- NEMA 3, 3R, 12
- Marine

Standard Materials:

 Power supply enclosure and luminaire assembly – copper-free aluminum (less than 0.4 of 1% copper)

Standard Finishes:

 Power supply enclosure and fixture assemblies – powder coat epoxy paint finish



Electrical Ratings:

Power Supply:

Input:

120, 220/240, 277 VAC, 50 or 60 Hz 0.5 Amps Maximum

Output:

12 VDC

UL listed for 28 watts for 1½ hours at 0° –

Luminaires:

Voltage: 12 VDC

Lamp Type: #789, miniature

Tungsten halogen, G4, 2-pin, 14 watt

Options:

Description	Suffix
• Remote mounted lamp head and arm	EVLA12
 Key operated disconnect switch 	
as part of the ELPS502	
emergency light system	S794
 Keyless operated designated 	
disconnect switch as part of the	
ELPS502 emergency light system	S854
- , , ,	

disconnect switch as par ELPS502 emergency ligh	
Ordering Informa	ition:
Standard unit with adjustable heads Replacement power	ELPS502†
interior, includes circuit board and battery pack Power supply Lamphead and arm Exit sign, double sided	ELPS K50 ELPS50† EVLA12†
with EVI, red letters • Exit sign, double sided	ELPS502 EXD
with EVI, green letters Exit sign, single or double sided with Group B EVA,	ELPS502 EXD GN
red letters Exit sign, single or double sided with Group B EVA, green	ELPS502 EXD GB
letters • Exit sign, single sided	ELPS502 EXD GB GN
with EVI, red letters Exit sign, single sided with EVI,	ELPS502 EXS

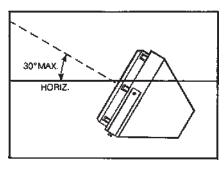
green letters.....

ELPS502 EXS GN

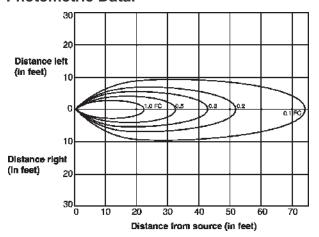
Temperature Pe	rformance	Data:
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romporataro i oriormanoo Batar			
Cat. #	Class	T-number	
Maximum Ambient	Temperature 55°C		
	Ī	T4A	
EVLA12	II*	T3B	
	III*	T3B	
Maximum Ambient	Temperature 40°C		
ELPS EVI		T3C	
LLF 3 LVI		T4	
ELPS EVA		T3C	
LLI O LV/		T4	

^{*}For Class II and Class III applications, fixtures must not be aimed more than 30° above horizontal (see diagram below).

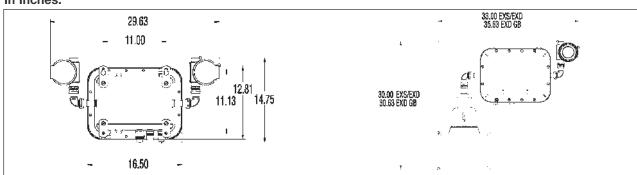


Photometric Data:



Dimensions

In Inches:



— 6.50-1.13 EXS/EXD 2.13 EXD GB

Unit Net Weights:

- ELPS502 complete emergency lighting system 50 lbs.
- ELPS50 power supply 40 lbs.
- EVLA12 luminaire assembly 5 lbs.

Status Indication:

LED Status	Condition	Meaning of the Indication
	No light	AC power is removed from the circuit
•	Steady light (no blinking)	Fully charged
•	Light blinks once	Charging
••	Light blinks twice	Battery failure
•••	Light blinks three times	Circuit failure
••••	Light blinks four times	Lamp failure

9L N2LPS LIGHT-PAK™ Emergency Lighting System

Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 2 Cl. II, Div. 2, Groups F, G Wet Locations, Marine NEMA 3, 3R, 4X Ambient 0°C to 55°C

Applications:

LED N2LPS Light-Pak™ emergency lighting systems are used:

- To provide reliable illumination for egress areas during failure or interruption of power to the normal lighting system
- In areas where flammable gases or vapors may become present due to abnormal, unusual, or accidental conditions
- In manufacturing plants, refineries, petrochemical and chemical plants, waste and sewage treatment facilities, oil terminals, food processing facilities, breweries, and other industrial manufacturing or process industry facilities subject to wet or corrosive conditions
- To illuminate machinery or panels during a loss of AC power
- Where moisture, dirt, dust, or corrosion will limit the life and reliability of ordinary emergency lighting systems
- Where required by the National Electrical Code®, the Life Safety Code® or other applicable codes
- · Outdoor applications

Features:

- Compact, factory-assembled luminaire featuring LED lamps for improved lumen performance, on-time, and lamp life
- Nonmetallic, enclosed, and gasketed housing provides corrosion protection in the most extreme environments
- Durable and marine rated LED lamp head assemblies provide protection against water ingress, corrosion, and impact
- High temperature rated nickel cadmium battery for reliable operation up to 55°C ambient
- Solid state battery charger for long life and reliable battery operation prevents deep discharge by automatically disconnecting the battery from the luminaire
- Factory-installed "push-to-test" button
- Self-test, monitoring, and diagnostics reduce costly maintenance checks
- Remote luminaire head assemblies (one or two) are available for mounting of luminaire heads away from main power system
- Stainless steel drain minimizes moisture collection
- Standard battery disconnect switch (Krydon® unit)

Certifications and Compliances:

NEC/CEC:

 Class I, Division 2, Groups B, C, D, Zone 2

UL Standards:

- 1598A (Supplemental Requirements for Luminaires for Installation on Marine Vessels)
- 924 (Emergency Lighting and Power Equipment)
- 844 (Electric Luminaires Hazardous Locations)

CSA Standards:

- C22.2 No. 141-M1985 unit equipment for emergency lighting
- C22.2 No. 137-M1981 non-incendive electrical equipment for use in Class I, Division 2 hazardous locations
- Life Safety Code NFPA101® Section 5-9 (Emergency Lighting)
- · Marine wet locations suitability, Type 4X

Standard Materials:

- Power supply and remote luminaire enclosures – Krydon® fiberglassreinforced polyester
- LED lamp head assembly epoxy powder coated stainless steel
- Exterior hardware nylon, plastic coated, and stainless steel
- Cover gasket Hypalon® synthetic rubber

Temperature Performance

Based on 55°C ambient				
	Class I,	Class II,		
Cat. #	Division 2	Division 1		
N2LPS (all)	40°C - T5;	T6		
NZLPS (all)	55°C - T4A	10		

N2RF (all)

Note: Ambient temperature at which the Light-Pak system is rated is 0°C to 55°C. Operation at temperatures outside this range will affect the battery life and/or charging performance.

T6

Note: Battery time in emergency mode is 90 minutes

National Electrical Code and Life Safety Code are registered trademarks of the National Fire Protection Association, Inc.

Noryl is a registered trademark of General Electric Company.



Electrical Ratings:

Power supply –
 Input: 120, 220, 230, 240, or 277 VAC, 50 or 60 Hz; 9 watts max.

Output: 18 watts max. at 12 VDC

• Luminaire heads –

Voltage: 12 VDC; Lamp: 3 watt LED Total lumen output: 80

Unit Net Weights:

- N2LPS12222 16 lbs.
- N2LPS12220 12 lbs.
- N2RF1221 8 lbs.
- N2RF1222 9 lbs.

Options:

Description	Suffix
55°C suitability	 . S 904

N2LPS LIGHT-PAKTM Emergency Lighting System

Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 2 Cl. II, Div. 2, Groups F, G Wet Locations, Marine NEMA 3, 3R, 4X Ambient 0°C to 55°C

Ordering Information:

Description	Cat. #
28 watt, 12 volt power supply assembly with two 3 watt LED lamp heads	N2LPS12222
28 watt, 12 volt stainless steel power supply assembly with two 3 watt LED lamp heads	N2LPS12222 SS
28 watt, 12 volt power supply assembly less luminaire heads	N2LPS12220*
Remote luminaire assembly with one 3 watt LED lamp head	N2RF1221*
Remote luminaire assembly with two 3 watt LED lamp heads	N2RF1222*
28 watt, 120V LED Light-Pak with single sided exit sign**	N2LPS12222/120 EXS DR0391734
28 watt, 277V LED Light-Pak with single sided exit sign**	N2LPS12222/277 EXS DR0391734
28 watt, 120V LED Light-Pak with double sided exit sign**	N2LPS12222/120 EXD DR0391734
28 watt, 277V LED Light-Pak with double sided exit sign**	N2LPS12222/277 EXD DR0391734

Note: Up to four (4) remote LED lamp assemblies can be connected to the N2LPS12222. Up to six (6) remote LED lamp assemblies can be connected to the N2LPS12220.

Wire Sizing for Remote Installation:

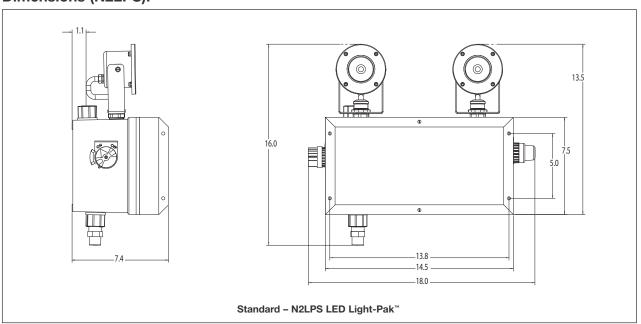
For Copper Wire -

Running Distance† (ft.) Between Power Supply and Remote Luminaire

Load In Watts					Load In Watts				
Wire Size	8	16	24	32	Wire Size	8	16	24	32
16 AWG	26	13	6	3	10 AWG	106	53	26	13
14 AWG	42	21	10	5	8 AWG	168	84	42	21
12 AWG	66	33	16	8	6 AWG	270	135	67	33

†Maximum distance to limit line voltage drop to 5%.

Dimensions (N2LPS):

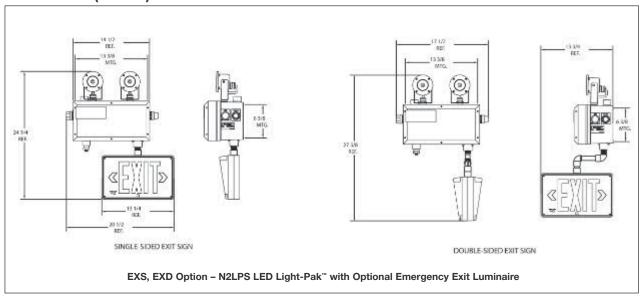


^{*}Not cUL approved. UL Listed only.

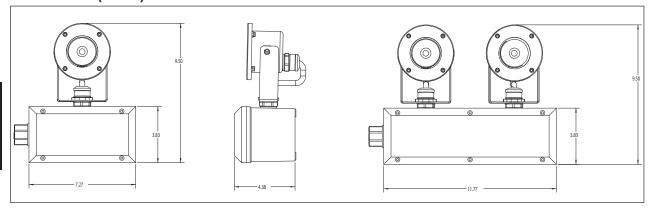
**Exit sign operates in both normal and emergency mode.

Cl. I, Div. 2, Groups B, C, D Cl. I, Zone 2 Cl. II, Div. 2, Groups F, G Wet Locations, Marine NEMA 3, 3R, 4X Ambient 0°C to 55°C

Dimensions (N2LPS):



Dimensions (N2RF):



Detail Indication Logic:

Status Indication	Status Description	Status Definition	
	No Light	AC Power Removed from Circuit	
*	Steady Light (No Blinks)	Fully Charged	
_	Light Blinks Once	Battery Charging	
_	Light Blinks Twice	Battery Failure	
_	Light Blinks Three Times	Circuit Failure	

CPMVFB Emergency Compact Fluorescent

Continuous Operation Champ-Pak™ Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence* Marine & Wet Locations 3. 3R. 4. 4X: IP66 **Emergency Lighting**

Applications:

- Where emergency lighting is required to permit workers in industrial areas to safely encounter their surroundings during power failures
- · Where emergency egress lighting is required, such as: catwalks, walkways, tunnels, doorways, stairs, stairwells, ramps and aisles
- Indoor and outdoor wall mounting or vertical surface mounting where minimal luminaire depth is required in:
 - Manufacturing plants and heavy industrial facilities
 - Industrial process facilities such as refineries, chemical, petrochemical, pharmaceutical, and platforms
 - Waste or sewage treatment plants
 - Offshore, dockside, and harbor installations
- For security and safety lighting in industrial facilites for lighting of loading docks, tunnels, and stairways
- For marine, wet location, hose down. and corrosive environments

Features and Benefits:

- Unique compact shallow profile design mounts virtually anywhere
- Side hinged cover with two screw closing for easy installation and maintenance
- Gray Corro-free[™] epoxy powder coat two-piece housing provides superior corrosion resistance
- Unique stainless steel wire guard accessory attaches without any additional hardware for easy installation and maintenance
- · Glass refractor provides uniform light distribution to eliminate glare
- Silicon gaskets make luminaire suitable for NEMA 4X, marine environments
- High power factor ballasts (+90%) are standard, which allow more luminaires per circuit

Certifications and **Compliances:**

• NEC/CEC:

Class I, Division 2, Groups A, B, C, D Class II, Class III & Simultaneous Presence

(Class I, Division 2 and Class II) Class I, Zone 2

IFC:

Zone 2 Ex nR IIC

• UL Standards:

844, 2279 Hazardous (Classified) Locations

1598 Luminaires

1598A Marine Locations

CSA Standards:

C22.2 No. 137

• IEC Standards: 60079-15

*Consult Eaton's Crouse-Hinds

Standard Materials:

- · Luminaire housing and door frame assembly - copper-free aluminum
- External hardware stainless steel
- · Lens heat- and impact-resistant refractor style glass
- Gaskets silicon rubber
- Reflector aluminum light sheet
- Wire quard stainless steel

Standard Finishes:

- Aluminum Corro-free[™] epoxy powder coat
- Stainless steel natural



Options:

Description	Suffix
Restricted breathing construction	S826
Class I, Division 2 & Zone 2 suitability	
Cooler operating temperatures (T-numbers)	
Certified for IEC Zone 2 (Suffix S826TB)	S826TB
Furnished with:	
Terminal Block	
Crimp Terminals	
Dedicated voltage ballasts (no MT, DT or TT)	
Factory assembled with lamp installed	FA
Fused - projects ballast and capacitors against abnormal line conditions	S658
(Not for use in Canada)	
(Not for Marine use)	

Electrical Rating Ranges:

- 52 watts
- 120-277V, 50-60 Hz
- 120V, 60 Hz
- 347V, 60 Hz

About the Battery:

- · Bodine fluorescent battery pack ballasts are UL component recognized
- Sealed, maintenance-free, high temperature nickel cadmium
- · Solid state chargers are sealed inside the ballast case
- 90 minute illumination time
- 10-year life expectancy
- 2-year full warranty
- During auxiliary use 1 lamp has continuous operation
- · A red indicator light indicates the battery is charging
- Wiring instructions for a "Push-to-Test" button is supplied with the fixture

Accessories:

Description	Cat. #
Stainless steel wire guard	P55

CPMVFB Emergency Compact Fluorescent 9L

Continuous Operation Champ-Pak[™] **Luminaires**

Ordering Information:

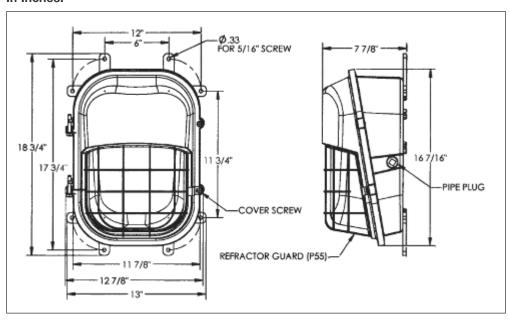
Hub Size	Lamp Watts	Cat. # for use with ANSI Lamps	
³/₄ NPT	26	CPMVFB2W026	_

Standard Voltage Ballasts

	NEC/UL	CEC/CS	SA (cUL)
Voltage	120-277V 50-60 Hz	120V/60 Hz	347V 60 Hz
Suffix	/UNV	/120CAN	/347

Dimensions

In Inches:



Net Weights: Luminaire Less Guard P55 Guard

18.6 lbs. 0.5 lbs.

DMVFB Emergency Compact Fluorescent

Continuous Operation Champ[®] Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB) Cl. II, Groups E, F, G; Cl. III & Simultaneous Presence Marine & Wet Locations 3, 3R, 4, 4X; IP66 Emergency Lighting

Applications:

DMVF Series Champ Lighting Luminaires are used:

- Where emergency lighting is required to permit workers in industrial areas to safely encounter their surroundings during power failures
- Where emergency egress lighting is required, such as: catwalks, walkways, tunnels, doorways, stairs, stairwells, ramps, and aisles
- In areas made hazardous by abnormal conditions resulting in the presence of flammable vapors or gases
- In areas made hazardous by the presence of combustible dusts
- Where combustible dusts and flammable vapors are present simultaneously
- In marine applications where water spray and corrosive atmospheres are considerations
- On installations where vibration and rough usage are problematic
- Where a cool, efficient light source is required
- In areas that require lamps to reach full illumination immediately
- In refineries, chemical and petrochemical facilities, grain processing, handling or storage facilities, manufacturing plants, wastewater treatment plants, sewage treatment plants, oil terminals, food processing facilities, breweries, and any other manufacturing or processing facility where safe, reliable hazardous area fluorescent or auxiliary lighting is needed

Standard Features:

- Housings made of die-cast copper-free aluminum (less than 0.4 of 1% copper) for strength and resistance to corrosion
- Mounting modules equipped with integral hub set-screws for vibration resistance (ceiling, pendant, and quad mounts)
- Hubs are provided with an integral conduit stop and bushing to help prevent damage to field wiring during installation
- Epoxy powder finish and stainless steel external hardware for resistance to corrosion
- Long-life gaskets which provide seals between mounting module, housing, and optical assembly
- Grounding wire for safety
- · Cool operating design
- Optional stainless steel open bottom guard permits direct access to the globe for easy relamping
- Battery pack ballast for emergency lighting

Certifications and Compliances:

NEC/CEC:

Class I, Division 2, Groups A, B, C, D Class II, Class III & Simultaneous Presence (Class I, Division 2 and Class II) Class I, Zone 2 Emergency Lighting

• IFC

Zone 2 Ex nR IIC

UL Standards:

844, 2279 Hazardous (Classified)

1598 Luminaires

1598A Marine Locations

924 Emergency Lighting

 CSA Standards: C22.2 No. 137

 IEC Standards: 60079-15

Standard Materials:

- Ballast housings and mountings copperfree aluminum (less than 0.4 of 1%)
- · External hardware guards stainless steel
- Reflectors Krydon® fiberglassreinforced polyester material
- Globe heat- and impact-resistant internally fluted glass

Standard Finishes:

• Aluminum – gray epoxy powder coat

construction.....

- Krydon material high reflectance white
- Stainless steel natural

Restricted breathing

Options: Description

-Class I, Division 2 &	
Zone 2 suitability	
-Cooler operating temperatures	
(T-numbers)	
Certified for IEC Zone 2	826TB
-Furnished with:	
Terminal Block	
Crimp Terminals	
 Emergency operation only – 	
Consult Eaton's Crouse-Hinds	
 Factory assembled with lamp 	
installed	FA
 Fused – to protect ballast 	
against abnormal line conditions	
(not for use in Canada) (not for	
marine use)	S658
 Lamps supplied with luminaire 	S714
 Top hat with stainless steel 	
threaded insert to attach ballast	
housing	S806
 TEFLON® coating on globe for 	
increased shatter protection	S808
·	



Electrical Rating Ranges:

- 52, 64, and 84 watts
- 120-277V, 50-60 Hz
- 347V, 60 Hz

Accessories:

(Order separately)			
Description	Cat. #		
Dome	RD739		
30° Angle	RA739		

Energy Savings

 Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output

About the Battery (DMVFB Units):

- Bodine fluorescent battery pack ballasts are UL component recognized
- Sealed, maintenance-free, high temperature nickel cadmium
- Solid state chargers are sealed inside the ballast case
- 90 minute illumination time
- 10-year life expectancy
- 2-year full warranty
- During auxiliary use 1 lamp has continuous operation
- A red indicator light indicates the battery is charging
- Wiring instructions for a "Push-to-Test" button is supplied with the fixture

Suffix

S826

DMVFB Emergency Compact Fluorescent

Continuous Operation Champ® Luminaires

Cl. I, Div. 2, Groups A, B, C, D Restricted Breathing Cl. I, Div. 2 & Zone 2 (Suffix S826) Certified for IEC Zone 2 (Suffix S826TB)

CI. II, Groups E, F, G; CI. III & Simultaneous Presence Marine & Wet Locations 3, 3R, 4, 4X; IP66 **Emergency Lighting**

DMVFB Series
Fluorescent with Battery
Back-Up with G303 Globe

	Mounting Style	Hub Size (In.)	Lamp Watts	and P33 Guard Cat. #
	Pendant Mount	³ / ₄ 1	52	DMVFB2A052GP DMVFB3A052GP
		3/4	64	DMVFB2A064GP
dillin.		1 3/ ₄	84	DMVFB3A064GP DMVFB2A084GP
		1	04	DMVFB3A084GP
	Flexible Pendant	3/4	52	DMVFB2HA052GP
THE PARTY OF THE P	Mount	3/4	64	DMVFB2HA064GP
		3/4	84	DMVFB2HA084GP
	Ceiling Mount	3/4	52	DMVFB2C052GP
7 Hittes	Thru-Feed	1		DMVFB3C052GP
152441111		3/4	64	DMVFB2C064GP
The state of the s		1	0.4	DMVFB3C064GP
		³ / ₄ 1	84	DMVFB2C084GP DMVFB3C084GP
	Wall Mount	3/4	52	DMVFB2TW052GP
- VANCE	Thru-Feed	1		DMVFB3TW052GP
		3/4	64	DMVFB2TW064GP
A STATE OF THE PARTY OF THE PAR		1		DMVFB3TW064GP
		³ / ₄ 1	84	DMVFB2TW084GP DMVFB3TW084GP
	Quad-Mount	3/4	52	DMVFB25Q052GP
10	Pendant, Adjustable	3/4	64	DMVFB25Q064GP
	Thru-Feed, 25° Angle, 12½° Angle	3/4	84	DMVFB25Q084GP

Note: For technical information on family trees, temperature performance data, dimensions, weights, and photometrics, refer to Series in Section 5L.



16





DMVFBJ084GP



Stanchion Mount	11/2	52	DMVFBP052GP
Straight	11/2	64	DMVFBP064GP
_	11/2	84	DMVFBP084GP

Standard Voltage Ballasts

	NEC/UL	CEC/CS/	A (cUL)
Voltage Suffix	120–277V 50–60 Hz	120V/60 Hz	347V 60 Hz
	/UNV	/120CAN	/347

EVLPFB Emergency Compact Fluorescent

Continuous Operation Low Profile Luminaires

Cl. I, Div. 1, Groups B (GB Suffix), C, D Cl. I, Zone 1, Groups IIB + H₂ (GB suffix), IIB, IIA Cl. II, Div. 1, Groups E, F, G; Class III, Simultaneous Presence

Marine & Wet Locations 3, 3R, 4, 4X; IP66 **Emergency Lighting**

Applications:

Eaton's Crouse-Hinds Low Profile Hazard • Gard® Luminaires are used in:

- · Areas that require lamps to reach full lumination immediately
- · Where emergency lighting is required to permit workers in industrial areas to safely encounter their surroundings during power failures
- Where emergency lighting is required such as: catwalks, walkways, tunnels, doorways, stairs, stairwells, ramps, and
- · Areas where flammable or explosive vapors or gases are present
- · Hazardous areas, both indoors and outdoors, where long life and low maintenance costs are desired
- Petroleum refineries, chemical. petrochemical and pharmaceutical plants, oil terminals, gas plants and other heavy process industry facilities
- Waste treatment facilities
- Drilling platforms and other coastal and offshore hazardous areas

Features and Benefits:

- Small, compact size
- Two start Acme threaded construction
- Easier assembly, installation, and maintenance
- Lightweight copper-free aluminum housing with powdered epoxy finish
- · All exterior hardware is corrosionresistant stainless steel
- Four mounting arrangements: pendant, ceiling, wall bracket, and stanchion
- Integral ballast
- High power factor (90%+) ballasts
- Uses same mounting modules as the standard Hazard • Gard®
- Internally fluted glass globes
- Krydon® construction dome and angle reflectors - won't rust, corrode, dent, chip, or peel
- Now available in components luminaire body, mounting module, guard, reflectors
- Three wire construction
- For energy conservation, luminaires can be switched off without affecting the emergency operation feature

Certifications and **Compliances:**

• NEC/CEC:

Class I, Division 1, Groups B (with GB suffix), C, D

Class I, Zone 1, Groups IIB + H₂ (GB Suffix), IIB, IIA

Class II, Class III & Simultaneous Presence

(Class I and Class II) **Emergency Lighting**

UI Standards:

844 Hazardous (Classified) Locations 1598 Luminaires

1598A Marine Locations

924 Emergency Lighting

· CSA Standards: C22.2 No. 137



Standard Materials:

- · Mounting modules, cover, ballast housing, globe holder - copper-free aluminum
- Globe heat- and impact-resistant glass
- Exterior hardware stainless steel
- Reflectors (dome & angle) Krydon® fiberglass-reinforced polyester

Standard Finishes:

- Copper-free aluminum Corro-free™ powdered epoxy
- Krydon white
- · Stainless steel guard

Energy Savings

 Less wattage used with compact fluorescent lamps compared to equivalent incandescent lamps providing the same light output

Ratings (Electrical/Size):

Sources/Wattage:

- Fluorescent continuous operation emergency lighting 52W (2-26W lamps) and 64W (2-32W lamps) compact fluorescent voltages
- Fluorescent emergency lighting 120-277V, 50-60 Hz 120V. 60 Hz 347V 60Hz

Conduit entries:

- 3/4", 1" NPT pendant, wall bracket, ceilina
- 11/4" NPT stanchion

Options:

Description	Suffix	
Group B suitability	GB	
Fused (not for use in Canada) (not for marine use)	S658*	
Factory assembled with lamps	FA	
Emergency operation only – Consult Eaton's Crouse-Hinds		

*When ordering fuses for luminaires, option S658, you must specify the operating voltage. S658 cannot be ordered with /MT in the catalog number.

Accessories:

Description	Cat. #
Dome reflector	RD739
Angle reflector	RA739

About the Battery:

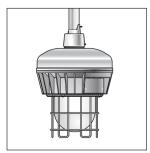
- Bodine fluorescent battery pack ballasts are UL component recognized
- · Sealed, maintenance-free, high temperature nickel cadmium
- Solid state chargers are sealed inside the ballast case; 90 minute illumination time; 10-year life expectancy
- 2-vear warrantv
- During emergency use, 1 lamp has continuous operation
- · A red indicator light indicates the battery is charging
- Wiring instructions for a "Push-to-Test" button is supplied with the fixture

EVLPFB Emergency Compact Fluorescent

Continuous Operation Low Profile Luminaires Cl. I, Div. 1, Groups B (GB Suffix), C, D Cl. I, Zone 1, Groups IIB + H₂ (GB suffix), IIB, IIA Cl. II, Div. 1, Groups E, F, G; Class III, Simultaneous Presence

Marine & Wet Locations 3, 3R, 4, 4X; IP66 **Emergency Lighting**

> Luminaire **Body**



Pendant Mount



Wall Bracket Mount†

Ordering Information:

		Pendant	Wall Bracket†	Ceiling†	Stanchion	Mounting Module & Guard
Watt	Hub Size (In.)	With Guard Cat. #	With Guard Cat. #	With Guard Cat. #	With Guard Cat. #	Cat. #
Fluores	scent v	with Emergency Ba	allast - High Power	Factor Ballast (Min	. P.F. 90%)	
	3/4	EVLPFBA02521	EVLPFBBX02521	EVLPFBCX02521	•	EVLPFB0520
52W	1	EVLPFBA03521	EVLPFBBX03521	EVLPFBCX03521		
	1 1/4				EVLPFBJ04521	
	3/4	EVLPFBA02641	EVLPFBBX02641	EVLPFBCX02641		EVLPFB0640
64W	1	EVLPFBA03641	EVLPFBBX03641	EVLPFBCX03641		
	1 1/4				EVLPFBJ04641	

Complete Catalog Numbers as follows:

Standard Voltage Ballasts

		NEC/UL	CEC/CSA (cUL)		
1.	Voltage	120-277V 50-60 Hz	120V/60 Hz	347V 60 Hz	
	Suffix	/UNV	/120CAN	/347	

Example: EVLPFB02521/UNV

Note: For technical information on family trees, temperature performance data, dimensions, weights, and photometrics, refer to DMVF Series in Section 5L.

EVFPFB Fluorescent Emergency Lighting

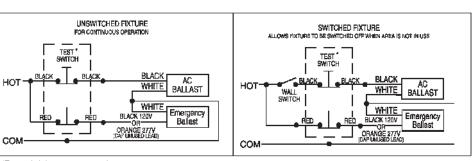
- · Three wire construction, for switching purposes, is standard on fluorescent emergency lighting.
- For energy conservation, luminaires can be switched off without affecting the emergency operation



Ceiling Mount†

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*Test switch is remote mounted.
Use Eaton's Crouse-Hinds EDSC218 (not furnished).

†Ceiling and bracket mounts have 4 hubs: 3 are plugged.

Ex-Lite LED Exit Signs

Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 1, AEx em ib IIC (NEC)

Cl. I, Zone 1, Ex em ib IIC (CEC)

Cl. II, Div. 2, Groups F, G (NEC)

Cl. II, Div. 2, Groups E, F, G (CEC)

The Ex-Lite Series of LED exit signs are designed for hazardous locations and are ideally suited for marking escape routes and exits in potentially explosive atmospheres.

The Ex-Lite Z is available as an AC only version, while the Ex-Lite ZE is available with self-contained battery. As an emergency lighting luminaire with self-contained battery system, the Ex-Lite ZE features a nickel cadmium battery with automatic test and monitoring feature.

Applications:

 In harsh and hazardous environments where illuminated exit signs are required

Features and Benefits:

LED Technology:

- Long life (>50K hours) for years of maintenance-free operation
- Energy-efficient for lower cost of operation
- Low temperature operation with no loss of illumination
- Rugged and durable light source for the harshest of environments

Exit Sign System:

- Can be used in a hazardous location
- · Conduit or cable entry
- Can be installed in moist, humid, rain, and wet environments
- Universal input voltage 110VAC-277VAC and 110VDC-250VDC reduces inventory
- Ex-Lite ZE with self-monitoring, selfdiagnostic, and test capability
- Premium heavy-duty nickel cadmium battery
- 24-hour charge and recharge time increases safety by recovering quickly from outage
- "EXIT" legend with alternative wings left, right, or left and right; simple field modification
- Emergency lighting cycle three hours
- The housing of the luminaire is constructed with a corrosion resistant, robust, lightweight aluminum alloy material and illumination of the sign is provided with red, high-efficient LEDs

Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 1, AEx em ib IIC (NEC)
- Class I, Zone 1, Ex em ib IIC (CEC)
- Class II, Division 2, Groups F, G (NEC)
- Class II, Division 2, Groups E, F, G (CFC)
- IP66
- UL844
- UL924/CSA22.2 No. 141-02
- UL60079/CSA22.2 E60079
- UL1203/CSA22.2 E6124-1-1-02



UL Listed

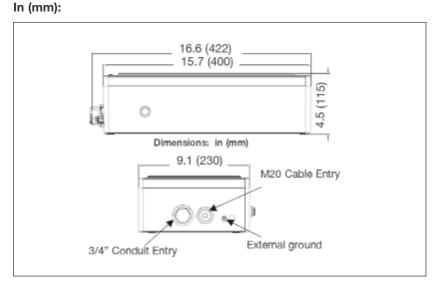
IP66

Ordering Information:

Catalog Number	Ex Lite Z	Ex Lite ZE
Material Number	12191001005	12191130005
Description	AC/DC Exit Sign	with Battery
Light Source	LED	LED
Life of LED	50K hours	50K hours
Rated Voltage, VAC	120V-277V	120V-277V
Frequency, Hz	50/60	50/60
Rated Voltage, DC	110V-250V	110V-250V
Power Consumption	6VA	6VA
Battery	N/A	NiCad
Allowable Temperature Range	-4°F to 122°F (-20°C to 50°C)	41°F to 95°F (5°C to 35°C)*
Mounting	Wall	Wall
Cable Entry	Ex-e	Ex-e
Conduit Entry	3/4"	3/4"
Protection	IP66	IP66

^{*}Due to battery chemistry, the charging capacity will be limited at temperatures below 5°C and above 35°C.

Dimensions



CCH UX Series LED Exit Signs

UL Listed Available with Cl. I, Div. 2, Groups A, B, C, D rating

Eaton's Crouse-Hinds CCH UX Series LED Exit Sign combines the strength and durability of die cast aluminum with architecturally-pleasing aesthetics. The CCH UX Series is illuminated by LEDs, providing the customer with a long-life, low maintenance, dependable exit sign for use in conditions where reliability is crucial.

Designed for the most severe environments, the CCH UX Series will provide maximum performance against rain, moisture, cold, corrosion, and dust in applications such as manufacturing plants, refineries, petrochemical and chemical plants, waste and sewage treatment facilities, food processing, and other industrial facilities.

Applications:

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- In locations deemed hazardous due to the presence of flammable vapors or gases
- In areas where the presence of gases or vapors may become present during an abnormal, unusual, or accidental conditions
- · Outdoor and wet applications
- Where required by the National Electrical Code®, Life Safety Code®, or other applicable codes

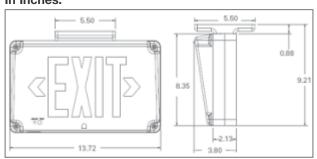
Features and Benefits:

- Wet location, outdoor rated for use in the most demanding environments
- · Optional hazardous location rating available
- Dual voltage 120V/277V reduces wiring errors
- · Heavy-duty nickel cadmium battery for long life
- · 24-hour charge and recharge recovery time increases safety
- Heavy-duty injection molded polycarbonate lens protects against impact and corrosion
- Brown-out protection protects battery and reduces labor
- Heavy-duty aluminum die cast housing protects against impact and chemical resistance
- LEDs provide long life, even illumination, and energy savings
- Wide operating temperature range (-45°C to 45°C)
- Self-diagnostic testing reduces costs by eliminating scheduled equipment verification tests
- Heavy duty nickel cadmium battery for long life meets 90 minute requirements for battery operated emergency system

Certifications and Compliances:

- NEMA 4X, UL50
- UL924 wet location
- IP65, IP66
- Available with NEC hazardous location rating
 UL844 Class I, Division 2, Groups A, B, C, D

Dimensions In Inches:



Mounting: wall mount, ceiling mount, end mount Conduit Entry: top, bottom, or either side of the unit



Benefits of LED Technology:

- Provides safe and reliable exit marking both indoors and outdoors during power failure or interruption of power to normal lighting system
- Long life (>50K hours) for years of maintenance-free operation
- Energy-efficient for lower cost of operation
- Low temperature operation with no loss of illumination
- Rugged and durable light source for the harshest of environments

Temperature Performance Data:

CCH UX Series Exit Sign:

• -45°C (-49°F) to 45°C (113°F)

CCH UX-HAZ Hazardous Location Exit Sign:

• T6 rating at 45°C (113°F)

Electrical Ratings:

 Power Supply 120V/277V dual voltage

 LED Exits - Green
Input Power
120V = 2.3W
277V = 3.0W
Input Current:
(Max.)
120V = .08A
277V = .03A

Ordering Information:

Catalog Number	Housing Finish	Letter Color
CCH UX70RSDHAZ	Silver Housing	Red LED
CCH UX60RHAZ	Silver Housing	Red LED
CCH UX70GSDHAZ	Silver Housing	Green LED
CCH UX60GHAZ	Silver Housing	Green LED
CCH UX70RSD	Silver Housing	Red LED
CCH UX70RWHSD	White Housing	Red LED
CCH UX70RBKSD	Black Housing	Red LED
CCH UX60R	Silver Housing	Red LED
CCH UX60RWH	White Housing	Red LED
CCH UX60RBK	Black Housing	Red LED
CCH UX70GSD	Silver Housing	Green LED
CCH UX70GWHSD	White Housing	Green LED
CCH UX70GBKSD	Black Housing	Green LED
CCH UX60G	Silver Housing	Green LED
CCH UX60GWH	White Housing	Green LED
CCH UX60GBK	Black Housing	Green LED

Crouse-Hinds

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Tank, Task and Gauge Lighting Hazardous and Non-hazardous Locations

Description	Page No.		
Application/Selection	see page 1210		
Gauge Light	see page 1216		
Tank Light			
V160	see page 1211		
EVA160	see page 1212		
Task Light			
EVTL1B50	see pages 1213-1215		
EVTL1L50	see pages 1213-1215		

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10L Specialty Lighting

Tank, Task and Gauge Hazardous and Non-hazardous Locations Application and Selection

Applications:

Specialty lighting luminaires are used:

- For various task lighting requirements in locations that are hazardous (classified) due to the presence of combustible dusts or easily ignitible fibers and flyings
- In areas where conventional lighting is not acceptable due to size and/or location
- In locations where an adequate light source is necessary for tank, instrument, and gauge applications
- In manufacturing plants, refineries, pharmaceutical, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, grain processing and handling facilities, and other heavy industrial applications

Considerations for Selection:

Environmental:

 What is the hazardous area classification (NEC)/(CEC) of the location in which the luminaire will be installed?

Lighting levels required:

• What wattage luminaire(s) will provide the desired light level?

Physical Arrangement:

• Type of fixture mounting needed

Product Selection:

- EV Tank Lights are suitable for use in Class I, Groups C, D hazardous (classified) locations; tank lights are used to light the inside of tanks, vats, process vessels, etc.
- EVTL Explosionproof Task Lights are suitable for use in Class I, Group B, C, D and Class II, Groups E, F, G hazardous (classified) locations; EVTL Lights are ideal for applications in which water spray and corrosive atmospheres are considerations
- ELG Gauge Lights are suitable for use in Class I, Groups C, D hazardous (classified) location; the light is used to illuminate liquid level gauges and to direct the light over the length of the column.

V Observation Incandescent Luminaire

Applications:

The incandescent V Observation Luminaire is used:

- In tanks or kettles where food is processed
- To light the inside of tanks for observation of the contents through a window

Features:

- Watertight
- Supported by a mounting ring which contains holes for riveting when placed around a hole in the tank; it can also be welded or brazed to the tank
- Heavy heat and impact-resistant glass globe eliminates breakage and resultant contamination of food from glass particles
- Relamping is easily accomplished by removal of the two thumb-screws which fasten the body to the mounting ring
- The flexible cord or cable should be connected by an EC flexible coupling or CG Series connector

Certifications and Compliances:

UL Standard: 1571CSA Standard: C22.2

Standard Materials:

- Mounting ring silicon bronze
- Fixture body Feraloy® iron alloy
- Globe heat-resisting glass

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Bronze natural

Size Ranges:

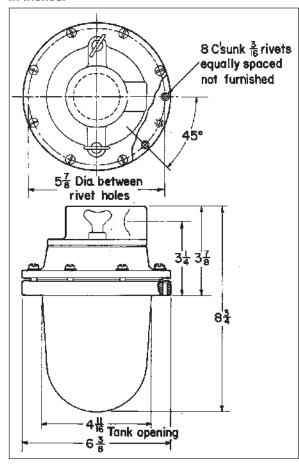
• Up to 100 watt, A-21 lamp



Furnished with EV10 Globle, and C166 Medium Base Lamp Receptacle

Hub Lamp Size	Size	Cat. #
11/2"	50, 60, 75 or 100W, A-21	V160

Dimensions In Inches:



Applications:

EV Tank Light Luminaires are used:

- To light inside of tanks, vats, process vessels, etc.
- In chemical plants, petrochemical plants and petroleum process industries
- Suspended over tank porthole by EC flexible hanger (EVO style)
- Mounted directly in tank wall (EVA)

Features:

- High light output
- · Compact design

EVA160:

- Furnished with tank ring having eight 3/16" holes for riveting to tank
- · Can be brazed if desired
- Luminaire ring is attached to the tank ring by eight 1/4-20 Allen Head cap
- · Luminaire attached to luminaire ring by four wing screws
- EC flexible luminaire support should be used so relamping can be accomplished without disturbing the globe

Certifications and Compliances:

• NFC:

Class I. Division 1 and 2. Groups C, D - EVO and EVA Class II, Division 1, Groups E, F, G - EVO only

UL Standard: 844

Standard Materials:

- Bodies EVO: copper-free aluminum; EVA: receptacle housing and intermediate ring - Feraloy® iron alloy; Tank ring - silicon bronze
- Globes EVO glass, heat strengthened plate glass; EVA: glass, heat- and impact-resistant

Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Feraloy iron alloy cadmium electrogalvanized and aluminum acrylic
- Silicon bronze natural

Size Ranges:

• 1/2" and 3/4" hubs

Capacity Ranges:

- EVO 75 watt, reflector spot max.
- EVA 100 watt. A-21 max.

Temperature Performance Data:

Based on 40°C Ambient

Cat. #	Class I,	Class II,	Supply
	Groups C, D	Groups E, F, G	Wire (°C)
EVO2376	T3C	T3C	75
EVA160	T3C*		75

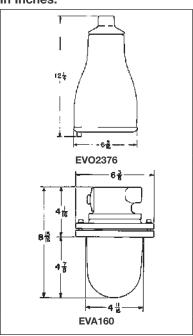
*All mounting positions.





EVA160

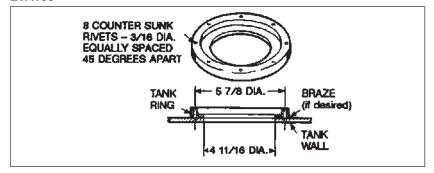
Dimensions In Inches:



Ordering Information:

Cat. #	Watts	Lamp (not furnished)	Hub Size
EVO2376	75	75R 30/SP reflector spot (medium base)	1/2 & 3/4
EVA160	100, A-21	Medium base	1/2

Tank Ring Mounting **EVA160**



EVTL Explosionproof Task Light

CI. I, Groups B, C, D CI. I, Zone I, IIB+H₂ CI. II, Groups E, F, G Class III Simultaneous Presence Wet Locations Marine Locations NEMA 3, 3R, 4, 4X

Applications:

EVTL Task Light Luminaires are used:

- For various task lighting requirements in locations that are hazardous (classified) due to the presence of flammable gases or vapors, combustible dusts, or easily ignitible fibers and flyings
- In marine applications where water spray and corrosive atmospheres are considerations
- In areas where conventional lighting is not acceptable due to size and/or location
- In locations where an adequate light source is necessary for tank, instrument, and gauge applications
- In porthole or sightglass applications where a spotlight is required for visibility inside tanks, vats, and process vessels
- In manufacturing plants, refineries, pharmaceutical, chemical, petrochemical, and other industrial process facilities, waste or sewage treatment facilities, grain processing and handling facilities, and other heavy industrial applications

Features and Benefits:

- Class I, II, III, Simultaneous Presence suitable for most hazardous (classified) areas
- Class I, Group B standard suitable for areas containing hydrogen
- Wet and marine (NEMA 4X) suitability perfect for hose down applications
- 55° ambient suitability addresses higher ambients typical of industrial plants
- Cast copper-free aluminum housing with Corro-free™ epoxy powder coat finish for superior corrosion resistance
- Stainless steel mounting brackets and hardware for superior corrosion resistance
- Two mounting styles (bracket and leg) to maximize mounting flexibility
- Bracket (universal) for ceiling, wall, or base mounting
- Leg (site glass) for site glass mounting
- Uses standard 50 watt PAR 20 medium base 120V lamps - improved light output, economical, long life 2000-2500 hour light source
- Uses 50PAR20 130V lamps for added lamp life - increase lamp life to 5000+ hours while maintaining 76% lumen output
- 50PAR20 lamps available in both flood and spot light patterns - vary the illumination characteristics by simply changing lamps
- Easy access interior reduces maintenance and lamp replacement time
- Seal within 5 ft. (not 18") of luminaire provides greater flexibility in seal location



EVTL1B50

Certifications and Compliances:

• NEC/CEC:

Class I, Division 1 & 2, Groups B, C, D Class II, Group E, F, G Class III

Class I, Zone 1 & 2, Group IIB + H₂ Wet locations

Marine locations NEMA 4X

• NEC:

Simultaneous Presence

• UL Standards:

844 – Hazardous (Divisions Classified) Locations 1571 – Ordinary and Wet Locations, Marine Outside Type

CSA Standards:
 C22.2 No. 137



EVTL1L50

Standard Materials:

- Housing copper-free aluminum
- $^{3}/_{4}$ " NPT hub and plug aluminum
- Mounting bracket(s) and external hardware — stainless steel
- Gasket silicone rubber
- Lens heat- and impact-resistant clear glass

Standard Finishes:

- Aluminum housing (exterior) Corro-free[™] epoxy powder coat
- Stainless steel natural

Ratings (Electrical/Size): Source/Wattage (Medium Base Lamps)

- 50PAR20 type—50W 120V halogen parabolic reflector; lamp life 2000-2500 hrs
- 130V lamps available to extend lamp life to 5000+ hrs.

Voltage

• 120V 60 Hz

Hub Size

- (1) 1/2" NPT
- For through-feed, use EVTL-TF1

Ordering Information:

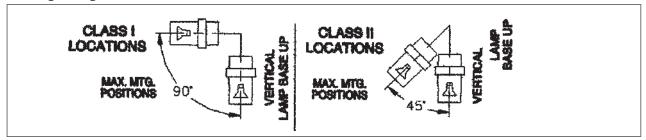
Cat. #	Conduit Entry	Mounting Style	Wattage
EVTL1B50	1/2"	Bracket (Universal)	50
EVTL1L50	1/2"	Leg (Site Glass)	50

Temperature Performance Data:

Cat. #	Maximum Ambient °C	Class I, Div. 1, Groups B, C, D Class II, Div. 1, Groups E, F, G Class III Simultanenous Presence Class I, Zone 1, IIB + H	Supply Wire °C
EVTL1B50	40	T3B	85
FVTI 11 50	40	T3B	85

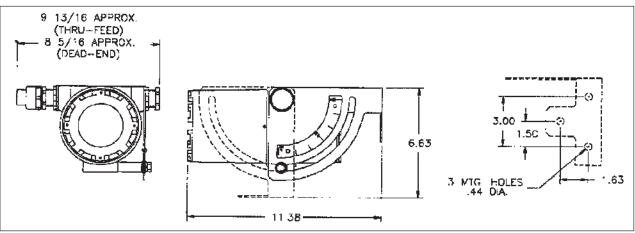
Install luminaire within aiming ranges shown on nameplate (see Dimensions).

Aiming Range:



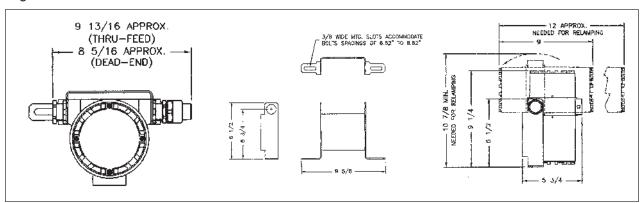
Dimensions:

Bracket Mount



Dimensions:

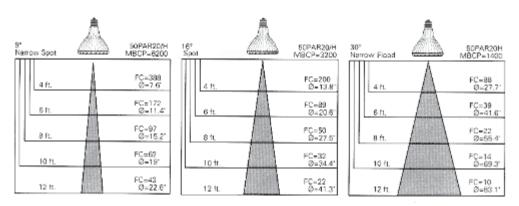
Leg Mount



Net Luminaire Weights:

(lbs.)

Luminaire Cat. #	Weight (lbs.)
EVTL1B50	7
EVTL1L50	7
EVTL-TF1	1/2



Lamp Light Distribution – (Philips lamp data shown. Similar for other manufacturers.) Data shown is for 120 volt lamps.

For 130 volt lamps adjust data using a .76 multiplier.

ELG Gauge Lights are used:

- In hazardous areas to illuminate liquid level gauges over entire length of gauge
- Clamped to rear of liquid level gauge and conduit is attached to the ELG hubs; light is reflected by Lucite reflector along the entire length of the gauge; liquid level shows on front of gauge; all light is concentrated on liquid column – no spill light

Features:

- Even illumination over entire length of gauge
- · Variety of sizes to fit many gauges
- Several lights can be used in tandem to illuminate long gauge

Certifications and Compliances:

• NEC/CEC: Class I, Division 1 and 2, Groups C, D

Standard Materials:

- Body copper-free aluminum
- Reflectors plexiglass

Standard Finishes:

Body – electrogalvanized and aluminum acrylic paint

Size Ranges:

• 1" conduit through-feed

Capacity Ranges:

- 120V medium screw base "A19" style incandescent lamp 58W maximum
- 25 watt medium base 1000 hour life
- 52 watt medium base 2500 hour life
- 58 watt medium base 3000 hour life

Temperature Performance Data:

Based on 40°C ambient

58 Watt - T4A Maximum

Options:

Description	Suffix
Group B suitability	GB

Suggested Lamps: Lamps not furnished

	Cat. #			
	25	52	58	
Manufacturer	Watt	Watt	Watt	Volts
General Electric	25A	60A/52WMP/98		120
Osram/Sylvania	25A	60A/52/SS/XL	58A19/62	120
Philips	25A	60A-52A/99/EW		120

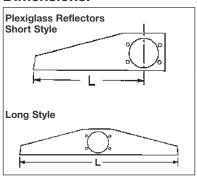


ELG329 with LE49 reflector

Ordering Information:

Description	Length (L) (inches)	Cat. #
Gauge Light (less reflector)	_	ELG329
Short - Style Reflector	4 ¹ / ₂ 5 ¹ / ₂	LE34 LE35
Long - Style Reflector	13 15 17 19 ³ / ₄ 22 25 ¹ / ₄ 26 ³ / ₄	LE46 LE47 LE48 LE49 LE410 LE412 LE413

Dimensions:



Signaling Devices -Visual and Audible

Section S

A comprehensive range of signaling products specifically designed for use in areas where harsh environmental conditions prevail and where there is a risk of explosion due to the presence of flammable atmospheres.



Table of Contents

Section S of the Eaton's Crouse-Hinds Catalog contains the following product groupings:

Section 1S

Fire Alarm or Emergency Call Points and Heat Detectors

(for use in hazardous areas)
Call points are used for fire alarm
activation, evacuation, and process shutdown. Heat detectors are used in
turbine/generator skids, switchgear or
motor control status rooms, and process
tank areas or transmission lines

SM87PBL BG3 SM87BG HD1

BG BG2

Section 2S Strobe Lights

(for use in hazardous and non-hazardous areas) Strobe lights for condition signaling, security alerts, equipment obstruction warnings, and emergency evacuation signaling

 XB15
 XB12
 VWL

 XB16 UL
 XB13
 OX2L

 SM87 HXB
 EXFASC
 VX2L

 XB11
 EXR
 OAL

 XB4
 OWL
 VAL

Section 3S

Steady-On Beacons

(for use in hazardous areas)
For safety lighting, continuous
communication sources, obstacle
warnings, exit or entrance lights, and for
identifying the location of safety
equipment such as showers or emergency
telephones

FB4 FL4 FB11 UL FB12 UL FB15 SM87 LU3 SM87 LU1 EXSO, EXDSO VF

Section 4S Status Lights

(for use in hazardous areas)
For process status, messaging, and alert
or emergency condition indication

SM87 SL XB11 SLUL XB12 SL, FB12 SL

Section 5S

Speakers and Tone Generators

(for use in hazardous areas)
For plant-wide alarm notifications and audible process alarms

DB1 ETH855, ETH845 DB3 ETH840, ETH640

DB4 ETH
DB5 W2H
DB12 WH
DB15 ESR
DB16 UL

Section 6S

Visual and Audible Combination Units

(for use in hazardous areas) Strobe light and audible tone generator in one package

DB3 / XB11 DB3 / SM87HX DB12 / XB13

S

For Hazardous and Non-hazardous Locations

Visual and Audible Signaling Devices as tough as your environment

- The broadest line of harsh and hazardous signaling, alarm and communication products available in both IEC and NEC designs and certifications.
- Hazardous area call points (fire alarm or emergency notification devices) provide you a unique product offering unequalled by any other manufacturer of hazardous location signaling products.
- Worldwide listings with UL, cUL, ATEX, GOST, CSA and CQST (Chinese) approvals provide customer solutions that the competition can't match.
- Superior enclosure materials, providing unmatched ingress protection and corrosion resistance from the harshest conditions.
- A unique signaling product offering integral visual and audible signaling capability pre-wired for simultaneous output activation.
- Heat detectors for early indication of potential processing problems.

Applications:

- For use in hazardous and non-hazardous areas.
- As visual signals or warning lights.
- To identify the location of safety equipment such as emergency shower, eye wash stations, and emergency telephones, fire extinguishers and emergency stop switches.
- For status indication of machinery or processes.
- To indicate dangerous areas or areas requiring caution.
- To signal dangerous or hazardous conditions.
- Where a high-decibel sound is required for alert or evacuation.

Considerations for Selection:

Environmental:

 What is the hazardous area classification (NEC/CEC) of the location in which the luminaire will be installed?

Signaling Requirements:

 What will the visual signal be used for (communicating, alerting, warning)?

Physical Arrangements:

• Type of luminaire mounting needed.



Manual Call Points



Strobes and Beacons



Horns and Speakers

What Types of Visual Signals are Available?

- Strobe Lights Used for signaling or warning of various conditions. Emits a powerful blast of bright light.
- Rotating Beacons Used to signal over a large area when the light must be seen from a long distance.
- Steady-on Beacons Typically used as a continuous source to warn, communicate or draw attention to an area, machine or process.
- Stack Lights Used for multiple indication in one signaling device. Compact and versatile, the three-color (red, amber and green) is most popular.

Combination Units

Lens Color and Their Applications

Most Eaton's Crouse-Hinds strobes, steady, and flashing beacons come in six lens colors: amber, blue, clear, green, magenta and red. Eaton's Crouse-Hinds LED signals come in amber, blue, green, red and, in some cases, white. The following are examples of how various lens colors are used in industrial and commercial signaling environments:

Amber - Denotes caution
Blue - Used for safety and security
Clear (or White) and Green - Used to
indicate normal run operation
Magenta - Used for radiation alarms
Red - Denotes emergency or warning

တ

Hazardous

Description	Page No.
Fire Alarm or Emergency Call Points	
BG, BG2, BG3	see pages 1222-1228
PB	see pages 1222-1228
SM87	see pages 1222-1228
Heat Detectors	
HD1	see pages 1229-1231



Class I, Div. 2, Zone 2 Touch-safe coated glass for finger activation.

These manual fire alarm call points have been designed for use in hazardous locations and harsh environmental conditions. They offer:

- The broadest range of hazardous location manual fire alarm activation devices in the industry.
- The compact design, activation choices such as pushbutton or break glass, housing color choices and comprehensive worldwide certifications make this product family a project closer.
- Flexibility as all units accept metric cable or NPT conduit entries, and each unit can be custom designed for a specific fire alarm or emergency activation requirements.



Class I, Div. 2, Zone 2 Push to activate.



Class I, Div. 1 Push to activate. Key switch to reset.

Applications:

- Fire alarm activation
- Emergency evacuation
- Process shut-down

Industries:

- Liquid natural gas terminals
- Energy exploration
- Chemical
- Refinery
- Power generation

Features and Benefits:

- In-line and end-of-line resistors fitted for use in fire activation circuits
- Optional LED to indicate operation
- Plastic break glass element available easy activation yet safe to touch
- Corrosion resistant GRP—ideal for marine applications
- Retained stainless steel cover screws won't corrode and never lose screws
- Optional lift flap for protection

Fire Alarm or Emergency Call Points

Hazardous Locations Weatherproof Marine

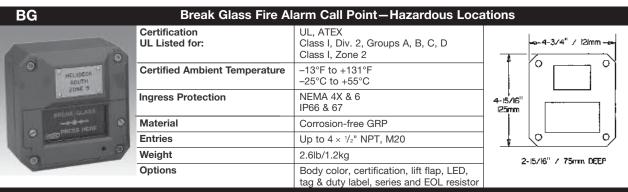
MEDC Series

SM87PBL	Push Butto				
	Certification UL Listed for: Certified Ambient Temperature		UL, CSA, ATEX Class I, Div. 1, Groups C, D Class I, Zone 1 -67°F to +158°F -55°C to +70°C		4-3/4" b
7					4-3/4" 1-
nuillann	Ingress Protection		NEMA 4X & 6 IP66 & 67		
	Material		Marine Grade Alloy Stainless Steel (ATEX only)		
-	Entries		Up to 4 × 1/2" or 3/4" NPT		5-3/16" / 132mm DEEP
	Weight		5.5lb/2.5kg		
	Options		Body color, certification		-
Certification	Ordering Code	Cat. #		Standard Product Conf	iguration
UL, CSA, Class I, Div. 1, Groups C, D, Zone 1	36200102	SM87PBLAUL3T3B3NNR		Explosion protected, 2 × duty label "Fire—Press F pushbutton switch—latel grade alloy, red finish	lere," single

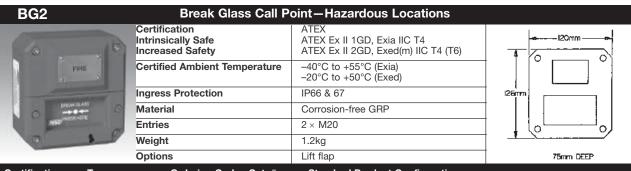
0110770					
SM87BG	Break Glas	ss Call F	Point—Explosionpro	oot	
			ATEX, CSA, GOST-R, GO		
AND THE R. P. LEWIS CO., LANSING, MICH.	Intrinsically Safe Flameproof		ATEX Ex II 1G, Exia IIC T ATEX Ex II 2G, Exd IIC T		
	· .		· · · · · · · · · · · · · · · · · · ·	0	1
CHICAGO PARTIES	Certified Ambient Temperature		-55°C to +70°C -20°C to +55°C (LED)	−55°C to +70°C −20°C to +55°C (LED)	
	Ingress Protection		IP66 & 67		22mm
0	Material		Stainless Steel or Alloy		
	Entries		Up to 4 x 20mm or 25mm		
	Weight		3.8kg (Steel) 2.5kg (Alloy)		IDSmm DEEP
	Options		Body color, 3 & 4 pole changeover switch, certification		
Certification	Ordering Code	Cat. #		Standard Product Configuration	on
ATEX Ex II 2GD	16200174	SM87B	GLAD1B1NNR	Break glass call point, Ex II 2GE Exd IIC T6, IP 66 & 67, 1 × M20 bottom entries, duty la "Fire Breakglass," alloy material	bel,

РВ	Push Button Fire		
	Certification UL Listed for:	UL, ATEX Class I, Div. 2, Groups A, B, C, D Class I, Zones 1 & 2	
FIRE	Certified Ambient Temperature	-13°F to +158°F -25°C to +70°C	4-3/4" / I2hm -a-
1	Ingress Protection	NEMA 4X & 6 IP66 & 67	4-15/16"
(3)	Material	Corrosion-free GRP	125mm
	Entries	Up to 4 × 1/2" NPT, M20	
	Weight	2.6lb/1.2kg	4-1/2" / 14mm DBEP
	Options:	Body color, certification	

Certification	Ordering Code	Cat. #	Standard Product Configuration
UL, Class I, Div. 2, Groups A, B, C, D, Zone 1 & 2	869105	PBUL4C6C0DSN7R	Explosion protected, $2 \times \frac{1}{2}$ " NPT bottom entries, no duty label, DC, single pushbutton switch latching, painted red GRP
ATEX Ex II 2GD	800010	PBEB4B6B0DSN6R	Explosion protected, Ex II 2GD, Exe, IIC, T6, Zone 1 & 2, 2 × M20 entries, DC, single switch, red finish



Certification	Туре	Ordering Code	Cat. #	Standard Product Configuration
UL Listed, Class I, Div. 2, Groups A, B, C, D, Zone 2	Haz. Loc.	869101		Explosion protected, $2\times \frac{1}{2}$ " NPT bottom entries, single break glass switch latching, painted red GRP finish
ATEX Ex II 1GD	Intrinsically Safe	800002		Explosion protected, Zone 0, 1 & 2, DC, $2 \times M20$ bottom entries, single break glass switch latching, single switch, red finish
ATEX Ex II 2GD	Increased Safety	800003	BGEB4B6B1DSN6R	Explosion protected Ex II 2GD, Exed, IIC, T6, Zone 1 & 2, DC, 2 × M20 bottom entries, single break glass switch latching, red finish
IP66 & 67	Waterproof	800001		Dust-tight and weatherproof, uncertified AC, $2 \times M20$ bottom entries, single break glass switch latching, red finish



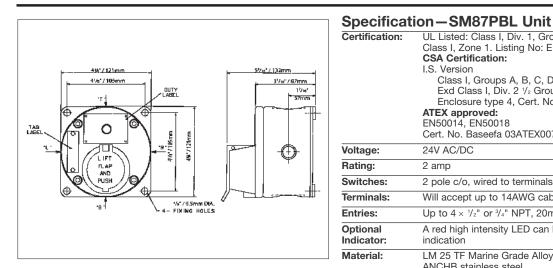
Certification	Туре	Ordering Code	Cat. #	Standard Product Configuration	
ATEX Ex II 1GD	Intrinsically Safe	800005	BG2INN1N	Explosion protected, Zone 0, 1 & 2, DC, 2 × M20 bottom entries, single break glass switch latching, red finish	
Increased Safety	Increased Safety	800004	BG2EDC1N	Explosion protected, Zone 1 & 2, DC, 2 × M20 bottom entries, single break glass switch latching, red finish	

increased date	increased date	5ty 000004	DOZEDON	single break glass switch latching, red fi	nish			
BG3	BG3 Break Glass Call Point—Explosionproof & Weatherproof							
				ATEX, GB ATEX Ex II 1G, Exia IIC T4	93nm			
	Cer	Certified Ambient Temperature		-55°C to +55°C (Exia)				
BREAK GLASS Ing		Ingress Protection		IP66 & 67	LNZ			
PRESS HERE Ma		Material		Corrosion-free GRP	93mm			
	Ent	tries		2 × M20				
4	We	ight		0.5kg	<u> </u>			
	Op	tions		Body color, lift flap	62mm DEEP (SURFACE MOUNT) 25mm DEEP (FLUSH/PANEL MOUNT)			
Certification	Туре	Ordering Code	Cat. #	Standard Product Configuration				
ATEX Ex II 1G	Intrinsically Safe	800007	BG3I1NBN	Explosion protected, Zone 0 / 1 & 2 DC, smount version, have 2 × M20 bottom entilatching, duty label "Burning House," red	ries, single break glass switch			
ATEX Ex II 1G	Weatherproof	atherproof 800006 BG3W1NBN Uncertified, dust-tight & weatherproof, 24V DC, single break glass switch latching, duty label "Burning House," red finish						

Fire Alarm or Emergency Call Points

Hazardous Locations Weatherproof Marine

MEDC Series



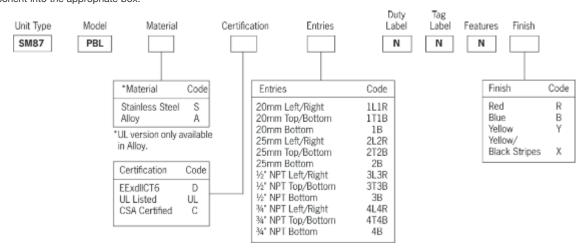
Field Installed Duty Labels

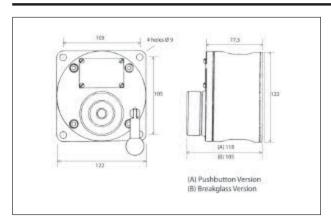
Use with SM87 Call Points:	Duty Label	Ordering Code
SM87PBL/SM87BGL	Blank	869530
SM87PBL/SM87BGL	Fire	869526
SM87PBL/SM87BGL	Emergency Shut Down	869532
SM87PBL/SM87BGL	Suppression Release	869534

Certification:	UL Listed: Class I, Div. 1, Groups C, D and Class I, Zone 1. Listing No: E186629. CSA Certification: I.S. Version Class I, Groups A, B, C, D Exd Class I, Div. 2 ½ Group D Enclosure type 4, Cert. No. 79120 ATEX approved: EN50014, EN50018 Cert. No. Baseefa 03ATEX0075
Voltage:	24V AC/DC
Rating:	2 amp
Switches:	2 pole c/o, wired to terminals
Terminals:	Will accept up to 14AWG cable
Entries:	Up to 4 × 1/2" or 3/4" NPT, 20mm, 25mm
Optional Indicator:	A red high intensity LED can be fitted for alarm indication
Material:	LM 25 TF Marine Grade Alloy or Grade 316 ANCHB stainless steel
Weight:	5.5 lb/2.5kg (approx.)
Finish:	Epoxy paint finish as standard or to customer's specification
Certified Temperature:	Exd/Exi: -55°C to 70°C -20°C to +55°C (LED version only) UL: -67°F to +158°F (-55°C to +70°C) -4°F to +131°F (-20°C to +55°C) LED version only CSA: -58°F to +131°F (-50°C to +55°C) (Exd) -58°F to +104°F (-50°C to +40°C) (Exi)
Ingress Protection:	NEMA 4X and 6, IP66 & 67 SM87 PB IP68 (40m for 8 hours)
Addressable:	Consult MEDC for specification
Resistor Values:	470R minimum (DC & I.S. units only)

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.





Both the ExialICT4 units and the ExdIICT6 units have the same external appearance. Also the internal components are identical throughout the range. Each unit can be wired for either NO, NC or CO contacts to customer specification.

Field Installed Duty Labels

Use with SM87 Call Points:	Duty Label	Ordering Code
SM87PBL/SM87BGL	Blank	869530
SM87PBL/SM87BGL	Fire	869526
SM87PBL/SM87BGL	Emergency Shut Down	869532
SM87PBL/SM87BGL	Suppression Release	869534

Specification—SM87BGL Unit

unit, latching Lift flap, break Type SM87BGL

Type SM87LBGL

glass, latching	Type Sivio7LbGL					
Voltage:	Exd 24V AC/DC Exia 28V					
Rating:	2 amp					
Switches:	2 pole c/o, wired to terminals					
	Optional up to 4 pole					
Terminals:	Will accept up to 2.5mm ² cable					
Entries:	Up to 4 x 20mm or 25mm ISO EExd/EExia					
Optional	A red high intensity LED can be fitted for alarm					
Indicator:	indication					
Material:	Grade 316 ANC4B Stainless Steel or LM 25 TF					
	Marine Grade Alloy					
Weight:	3.8 kg. steel (approx.) or 2.5 kg. alloy (approx.)					
Finish:	Epoxy paint finish as standard or to customer's					
	specification					
Certification:	CENELEC EN 50014, EN50018 (for Exd) and					
	EN50020 (for Exi)					
	ExialIC T4 Cert No. Baseefa 02 ATEX 0152X					
	ExdIIC T5/T6 Cert No. Baseefa 03 ATEX 0075					
	CSA Certification: Class I Groups A-D I.S. version (SM87 PBI					
	only)					
	Class I, Div. 1 & 2, Group D					
	(Exd – SM87 PB & SM87 BG)					
	GOST 'R' Certification:					
	1Exib IIC T4, 1Exd IIC T4*					
	GOST 'K' Certification:					
	Exib IIC T4*					
	Chinese Certification:					
	CQST – Exia IIC T4, Exd IIC T5/T6* *Available upon request					
	Available upon request					

Certified Exd/Exi*

-55°C to +70°C Temperature:

-20°C to +55°C (LED version only)

-50°C to +55°C (Exd) -50°C to +40°C (Exi)

*Note: includes ATEX, GOST & Chinese versions.

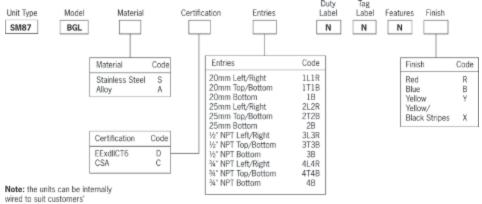
Ingress IP66 and IP67

SM87 PB IP68 (40m for 8 hours)

Protection: Resistor Values: 470R minimum (DC & I.S. units only)

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

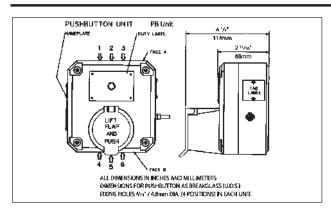


specifications. Please discuss your requirements with us.

<u>s</u>

Fire Alarm or Emergency Call Points

MEDC Series



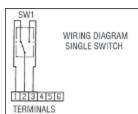
Field Installed Duty Labels

Marine

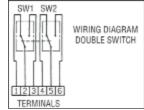
	-	
Use with PB Call Points:	Duty Label	Ordering Code
РВ	Blank	869530
РВ	Fire	869526
PB	Emergency Shut Down	869532
PB	Suppression Release	869534

Specification - PR Unit

Specification—PB U					
Certification:	UL Listed — Hazardous locations: Class I, Div. 2, Groups A, B, C, D and Class I, Zone 2 UL Listing No. E186629				
	Ordinary locations: Fire Alarm Boxes. UL Listing No. S8117				
	CSA Certified to C22.2 (PB only), Nos. 0-M, 0.4M, 14-M, 25,30-M, 94,				
	142-M 1987, 157M 1987, 157–92, Enclosure Type 4, 4A, Class I, Groups A, B. C. D. Cert. No. 79120				
	ATEX Approved:				
	EN50014, EN50018, EN50019, EN50028				
	Cert. No. BAS02ATEX2105X (BG & PB), Exed II C T6 (switch only), Exedm IIC T4 (other versions)				
Voltage:	Up to 240V				
Certified Temperature:	BGUL/PBUL:				
	-13°F to +131°F (-25°C to + 55°C)				
	PB (CSA):				
	–58°F to +104°F (–50°C to +40°C)				
Ingress Protection:	NEMA 4X & 6, IP66 & 67				
Terminals:	7 x 14 AWG standard				
Switch Rating (1 or 2	Max Rating 240VAC, 3A				
changeover switches fitted):					
Cable Entries:	Up to 4 entries 1/2" NPT or 20mm				
Weight:	2.6 lb/1.2kg (varies with model & entries)				
Material:	Glass reinforced polyester				
Finish:	Red epoxy painted finish as standard or to customer's specification				
Resistors:	Various configurations available on versions up to 24V, 470R minimum				
LED Indication:	A high intensity red LED can be fitted as an optional extra to indicate operation on versions up to 24V				
Labeling:	PB & BG duty label — worded to client's requirements (riveted on) PB & BG tag label — worded to client's requirements (screwed on)				
	T b & bot tag tabet — worded to client's requirements (screwed on)				



Basic single changeover switch wiring diagram



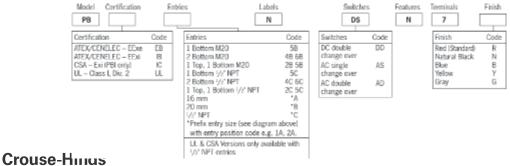
Basic double changeover switch wiring diagram

For versions containing in-line and end-of-line resistors, please specify your requirements.

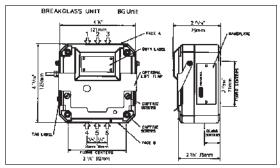
Ordering Requirements

by **F**:**T·N**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



18



Field Installed Duty Labels

•					
Use with BG Call Points:	Duty Label	Ordering Code			
BG	Blank	869531			
BG	Fire	869525			
BG	Emergency Shut Down	869533			
BG	Suppression Release	869535			

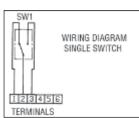
Specification—BG Unit

Certification: UL Listed - Hazardous locations: Class I, Div. 2, Groups A, B, C, D and Class I, Zone 2 UL Listing No. E186629 Ordinary locations: Fire Alarm Boxes. UL Listing No. S8117. CSA Certified to C22.2 (PB only), Nos. 0-M, 0.4M, 14-M, 25,30-M, 94, 142-M 1987, 157M 1987, 157-92, Enclosure Type 4, 4A, Class I, Groups A, B, C, D, Cert. No. 79120 **ATEX Approved:** -58°F to +104°F (-50°C to +40°C) Cert. No. BAS02ATEX2105X (BG & PB), Exed II C T6 (switch only), Exedm IIC T4 (other versions) Up to 240V Voltage: BGUL/PBUL: **Certified Temperature:** -13°F to +131°F (-25°C to + 55°C) PB (CSA): -58°F to +104°F (-50°C to +40°C) **Ingress Protection:** NEMA 4X & 6, IP66 & 67 7 x 14 AWG standard Terminals: Switch Rating (1 or 2 Max Rating 240VAC, 3A changeover switches fitted): Cable Entries: Up to 4 entries 1/2" NPT or 20mm Weight: 2.6 lb/1.2kg (varies with model & entries) Material: Glass reinforced polyester Finish: Red epoxy painted finish as standard or to customer's specification Resistors: Various configurations available on versions up to 24V, 470R minimum **LED** Indication: A high intensity red LED can be fitted as an optional extra to indicate operation on versions up to 24V

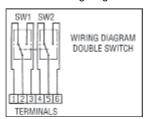
BG glass label - reads either:

(1) Fire break glass - press here

(2) Break glass - press here (3) Worded to client's requirements



Basic single changeover switch wiring diagram



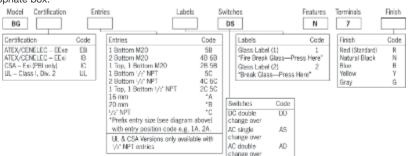
Basic double changeover switch wiring diagram

For versions containing in-line and end-of-line resistors, please specify your requirements.

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

PB & BG tag label — worded to client's requirements (screwed on)
PB & BG duty label — worded to client's requirements (riveted on)



Labeling:



Exd version (optional guard)

The MEDC heat detector has been designed for use in hazardous environments. These units are suitable for fire alarm and/or suppression systems in offshore and onshore applications including paint spray booths, flammable material stores, turbine rooms, extract ductwork and other hazardous areas throughout the oil & gas, petrochemical and process industries.

Comprising a Fenwal rate-compensated detector with all-stainless steel external construction, mounted to either a type SM87 marine grade alloy enclosure (Exd version) or JB10 corrosion-free GRP enclosure (Exia, Exem/UL versions). The contact in the detector CLOSES at alarm temperature.

To select appropriate temperature setting, see specification on reverse.

Applications:

- Compressor turbine/generator skids
- Switchgear or motor control status rooms
- · Process tank areas or transmission lines

Typical Industries:

- Power generation
- Nuclear plants
- · Chemical processing
- Upstream/downstream oil and gas



Exia/Exem/UL versions (optional guard)

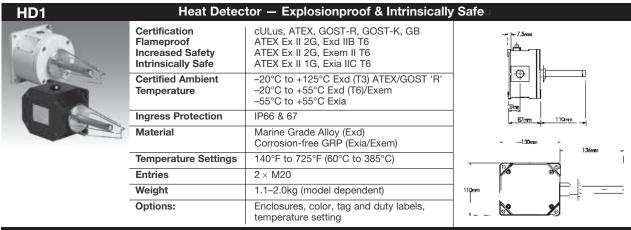
Certifications and Compliances:

- Zone 0. Zone 1 and Zone 2
- Exia IIC T4/T6, Exd IIB T3/T6 or Exem II T6
- ATEX approved
 - -Ex II 1G (Exia)
 - -Ex II 2G (Exd/Exem)
- BASEEFA certified
- UL listed for USA and Canada
 Class I, Div. 2, Groups A, B, C, D
- GOST 'R' & 'K' certified
- Chinese (CQST) certified
- IP66 & IP67
- Certified temperature:
 - -20°C to +125°C (Exd)*
 - -20°C to +55°C (Exem/UL)
 - -55°C to +55°C (Exia)
- Stainless steel probe
- Detector temperature settings: 60°C to 385°C, (140°F to 725°F)
- Marine grade Alloy or GRP enclosure
- · Optional guard

*Model dependent.

1S Heat Detectors

MEDC Series



Compensated Heat Detector with Guard Fitted Natural Black Finish

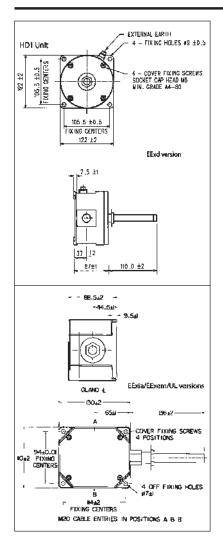
To select appropriate temperature settings, choose detector at 56°C (100°F) above maximum ambient temperature.

	U			`	,	•	
Certification		erature tting (°C)	Tolera (°F)	ance (°C)	Color Code Detector Tip	Ordering Code	Cat. #
	140	60	+7/-8	±4	Black	46500152	HD1ULE140GN
	160	71	+7/-8	±4	Black	46500153	HD1ULE160GN
	190	88	+7/-8	±4	White	46500154	HD1ULE190GN
UL, cUL, Class I, Div 2, Groups A, B, C, D	225	107	+7/-8	±4	White	46500155	HD1ULE225GN
Class I, Zone 2, IIC	275	135	±10	±6	Blue	46500156	HD1ULE275GN
	325	163	±10	±6	Red	46500157	HD1ULE325GN
	360	182	±10	±6	Red	46500158	HD1ULE360GN
	450	232	±15	±8	Green	46500159	HD1ULE450GN

Certification	Standard Product Configuration	Ordering Code	Cat. #
ATEX Exd	140°F detector, marine grade alloy enclosure, painted gray	465607	HD1BD140NG
ATEX Exd	160°F detector, marine grade alloy enclosure, painted gray	465602	HD1BD160NG
ATEX Exd	190°F detector, marine grade alloy enclosure, painted gray	465603	HD1BD190NG
ATEX Exd	225°F detector, marine grade alloy enclosure, painted gray	465614	HD1BD225NG
ATEX Exd	275°F detector, marine grade alloy enclosure, painted gray	465609	HD1BD275NG
ATEX Exd	325°F detector, marine grade alloy enclosure, painted gray	465605	HD1BD325NG
ATEX Exd	360°F detector, marine grade alloy enclosure, painted gray	46500043	HD1BD360NG
ATEX Exd	450°F detector, marine grade alloy enclosure, painted gray	465601	HD1BD450NG
ATEX Exd	600°F detector, marine grade alloy enclosure, painted gray	46500045	HD1BD600NG
ATEX Exd	725°F detector, marine grade alloy enclosure, painted gray	46500104	HD1BD725NG
ATEX Exem	140°F detector, GRP enclosure, natural black	46500026	HD1BE140NN
ATEX Exem	160°F detector, GRP enclosure, natural black	465301	HD1BE160NN
ATEX Exem	190°F detector, GRP enclosure, natural black	465305	HD1BE190NN
ATEX Exem	225°F detector, GRP enclosure, natural black	465304	HD1BE225NN
ATEX Exem	275°F detector, GRP enclosure, natural black	46500031	HD1BE275NN
ATEX Exem	325°F detector, GRP enclosure, natural black	465306	HD1BE325NN
ATEX Exem	360°F detector, GRP enclosure, natural black	46500072	HD1BE360NN
ATEX Exem	450°F detector, GRP enclosure, natural black	465303	HD1BE450NN

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MEDC Series



Exd IIB T6 (T3 at +125°C), Ce Exia IIC T6 (T4 with diodes/re	ert.No. Baseefa 03ATEX0447		
Exd IIB T6 (T3 at +125°C), Ce Exia IIC T6 (T4 with diodes/re	ert.No. Baseefa 03ATEX0447		
CENELEC EN50014, 19 & 28 Exd IIB T6 (T3 at +125°C), Cert.No. Baseefa 03ATEX0447 Exia IIC T6 (T4 with diodes/resistors), Cert. No. Baseefa 03ATEX0427 Exem II T6, Cert. No. Baseefa 03ATEX0428 UL listed for USA and Canada - Class I, Div 2, Groups A, B, C & D - UL Listing No. E252920 GOST 'R' & 'K' Certification: Exd, Exi & Exem versions			
Chinese Certification:	Russian Fire Alarm (VNIIPO) approved CQST – Exd, Exi & Exem versions		
Detector: Enclosures: Optional Guard:	316 stainless steel Exd – LM25 marine grade alloy Exia/Exem/UL – GRP (anti-static) Stainless steel cover screws 316 stainless steel		
Detector: Enclosures:	Sand blasted Exd – Epoxy painted gray as standard or to customer's specification Exia/Exem/UL – Self colored black or epoxy painted to customer's specification		
Exd, 2kg. Exia/Exem/UL, 1.1kg.			
:: -20°C to +125°C Exd (T3) ATEX & GOST 'R' only -20°C to +55°C Exd (T6)/Exem/UL, -55°C to +55°C Exia			
P66 & IP67			
The detector contact is normally open and CLOSES at alarm temperature			
E	ixd, 2kg. ixia/Exem/UL, 1.1kg. 20°C to +125°C Exd (T3) AT 20°C to +55°C Exd (T6)/Exe P66 & IP67 The detector contact is norm		

Listed Temperature Settings:

To select appropriate temperature settings, choose detector at

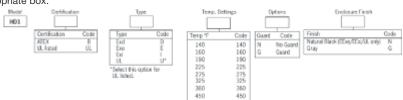
Ì	Temperatu		Toler	ent tempera ance	Color Code
	(°F)	(°C)	(°F)	(°C)	Detector Tip
Ī	140	60	+7/-8	±4	Black
	160	71	+7/-8	±4	Black
	190	88	+7/-8	±4	White
	225	107	+7/-8	±4	White
	275	135	±10	±6	Blue
	325	163	±10	±6	Red
	360	182	±10	±6	Red
	450	232	±15	±8	Green
	600	316	±20	±11	Orange
	725	385	±25	±14	Orange

Contact Rating:	Exd/Exem/UL: 125V AC - 5A, 125V DC - 0.5A, 48V DC - 1A. Exia: 30V - 300mA
Terminals:	6 x 4mm² (BK6)

Terminals:	6 x 4mm² (BK6)			
Labels:	Optional stainless steel tag and duty labels			
Cable Entries: 2 x M20 ISO (ATEX/Exd/Exe/Exi versions) 2 x 1/2 NPT via adaptors (UL version)				
Resistor:	2 x M20 ISO (ATEX/Exd/Exe/Exi versions) 2 x ½" NPT via adaptors (UL version)			
Diodes:	Up to 2 off available in Exd, Exi & UL versions—contact sales office			

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



Hazardous and Non-hazardous

Description	Page No.
Strobe Lights - MEDC Series	
SM87 HXB	see pages 1239-1240
XB4	see pages 1242-1244
XB11	see pages 1239-1241
XB12	see pages 1242-1245
XB13	see pages 1243-1246
XB15	see pages 1235-1238
XB16 UL	see pages 1236-1238
Strobe Lights - Hazard•Gard EX Series	
EXFASC	see page 1247
EXR	see pages 1251-1253
EXS, EXDS	see pages 1248-1250

Hazardous Locations Weatherproof

MEDC Series





These listed strobes have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where a lightweight product combined with corrosion resistance is required.

The housing is manufactured from a U.V. stable, glass reinforced polyester, with the lens manufactured from a U.V. stable polycarbonate. Stainless steel screws are used, ensuring a totally corrosion-free product.

The strobes contain supervisory diode and four wire leads for fire alarm applications. This strobe is also available UL 1971 (ADA) Listed for hearing impaired applications.

Units can be painted to customer specification and supplied with identification labels.

Applications:

- Condition signaling
- Security alert
- Equipment obstruction warning
- · Emergency evacuation signaling

Features and Benefits:

- Pipe mount with 1/2" NPT entry
- Corrosion resistant GRP enclosure
- XB16 580,000 peak candlepower
 XB15 520,000 peak candlepower
- XB15 520,000 peak candlepower
- Polycarbonate lens, various colors available†
- 4 wire diode monitored board
- Optional relay initiate
- Optional lens guard

†UL 1971 version available with clear lens only (XB16 only). *Conforms to UL regulated voltage.



XB15 Pipe Mount (with cast guard)

Certifications and Compliances:

- UL Listed for USA and Canada
 - Hazardous locations for USA and Canada Class I, Div. 2, Groups A, B, C, D* UL 1971 compliant version available
 - Ordinary locations: Visual Signal Device
- NEMA 4X and 6, IP66 & 67
- Certified temperature
 - -67°F to +158°F
 - -55°C to +70°C

Typical Industries:

- Utility gas plants
- Wastewater treatment plants
- Mining
- Petroleum refineries
- Chemical and petrochemical
- Pulp and paper

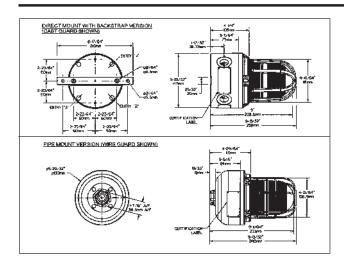
XB15 15 Joule Flashing Xenon—Hazardous & Ordinary Locations cULus, ATEX Class I, Div. 2, Groups A, B, C, D Class I, Zones 1 & 2, AExd IIC T5/T6 Certification **UL Listed for: Certified Ambient** -67°F to +158°F Temperature -55°C to +70°C NEMA 4X & 6 Ingress Protection IP66 & 67 Material Corrosion-free GRP Entries Up to 3 x 1/2" NPT or 3 x 3/4" NPT 6-8lb/2.6-3.6kg Weight Options: Body & lens color, voltages 12-48V DC, 110-254V AC

Certification	Voltage	Lens Color	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Red	869400	XB15UL12006RWBNN	15 joules, direct mount w/backstrap , x ³ / ₄ " NPT side entries, wire quard, 60 flashes
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Amber	869401	XB15UL12006AWBNN	per minute, natural black finish
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Red	869402	XB15UL12006RWPNN	15 joules, pipe mount , 1 x ³ / ₄ " NPT entry,
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Amber	869403	XB15UL12006AWPNN	wire guard, 60 flashes per minute, natural black finish
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Clear	27600042	XB15UL02406CWBNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Green	27600043	XB15UL02406GWBNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Blue	869393	XB15UL02406BWBNN	15 joule beacon, 60 flashes per minute, wire guard, backstrap , 2 x ³ / ₄ " NPT entries, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Red	869398	XB15UL02406RWBNN	entries, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Amber	869399	XB15UL02406AWBNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Clear	27600047	XB15UL02406CWPNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Green	27600048	XB15UL02406GWPNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Blue	869394	XB15UL02406BWPNN	15 joule beacon, 60 flashes per minute, wire guard, pipe mounting , 1 x ³ / ₄ " NPT
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Red	869396	XB15UL02406RWPNN	entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Amber	869397	XB15UL02406AWPNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Clear	27600052	XB15UL12006CWBNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Green	27600053	XB15UL12006GWBNN	15 joule beacon, 60 flashes per minute, wire guard, backstrap , 2 x ³ / ₄ " NPT entries, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Blue	869405	XB15UL12006BWBNN	entries, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Clear	27600057	XB15UL12006CWPNN	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Green	27600058	XB15UL12006GWPNN	15 joule beacon, 60 flashes per minute, wire guard, pipe mounting, 1 x ¾ " NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Blue	869404	XB15UL12006BWPNN	entry, natural black enclosure

2S

XB16 UL	10 Joule F	lashing Xenon—Hazardous & Ordinary	Locations
	Certification UL Listed for:	cULus, UL 1971 compliant Class I, Div. 2, Groups A, B, C, D	
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C	
	Ingress Protection	NEMA 4X & 6 IP66 & 67	8-35/64" 217mm
100 mm	Material	Corrosion-free GRP	
	Entries	Standard 1 x 1/2" NPT	
	Weight	2.2lb/1kg	
	Options	Body & lens color, lens guard, voltages 12–48V DC, 110–254V AC	ø5-33/64 ' •9- ø140mm — 5≠

Certification	Voltage	Lens Color	Ordering Code	Cat. #	Standard Product Configuration	
UL 1971 compliant	24V DC	Clear	29600023	XB16US02460CYNN	UL 1971 Listed for signaling devices for the hearing impaired. Suitable for fire alarm indication. 10 joule beacon, 60 flashes per minute, lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Blue	869406	XB16UL12060BYNN		
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Red	869407	XB16UL12060RYNN	10 joules, 60 flashes per minute, 1 x 3/4" NPT entry, 240 Cd, lens guard, natural black finish	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Amber	869408	XB16UL12060AYNN	guard, fratural black fillisti	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Clear	29600013	XB16UL12060CYNN		
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Green	29600014	XB16UL12060GYNN	10 joule beacon, 60 flashes per	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Blue	29600011	XB16UL12060BYNN	minute, lens guard, pipe mounting, 1 x ³ / ₄ " NPT entry, natural black	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Red	29600003	XB16UL12060RYNN	enclosure	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	120V AC	Amber	29600004	XB16UL12060AYNN		
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Green	29600016	XB16UL02460GYNN		
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Blue	29600017	XB16UL02460BYNN	10 joule beacon, 60 flashes per minute, lens guard, pipe mounting,	
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D			1 x ¾" NPT entry, natural black enclosure			
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	24V DC	Amber	869411	XB16UL02460AYNN		



Electrical Ratings:

	DC		AC					
Voltage	24	24 48 110 120 230 240					254	
Current (A) at 60 fpm	.78	.67	0.4	0.4	0.2	0.2	0.17	
Current (A) at 80 fpm	.99	.73	0.4	0.4	0.2	0.2	0.17	
Current (A) at 120 fpm	.99	.73	0.4	0.4	0.2	0.2	0.17	
Effective Candlepower	Effective Candlepower 330 (Effective candlepower is the intensity that would appear to an observer if the light was burning steadily)							
Peak Candlepower	520,000 (Peak candlepower is the maximum light intensity generated by a flashing light during its light pulse)							

Multiplying Factor for Colored Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

Specification—XB15 Unit

Certification: UL Listed for USA and Canada:

 Hazardous locations
 Class I, Div. 2, Groups A, B, C, D Class I, Zone 1, AExd IIC T5/T6

UL listing No. E187894

- Ordinary locations: Visual Signal Device

UL listing No. S8128 CENELEC/ATEX approved CENELEC EN50014 & EN50018 ATEX Cert. No. Baseefa 04ATEX0009X

Material: Body: Glass reinforced polyester

Lens: Glass

Backstrap: stainless steel 316

Wire Guard (optional): stainless steel wire Cast Guard (optional): aluminium LM25M

Finish: Natural black or epoxy painted to customer

specification

Voltage: 24, 48V DC 15 joules

110, 120, 230, 240, 254V AC

Tube Life: >1 × 106 flashes Flash Rate: 60, 80, 120 fpm

Tube Energy:

-67°F to +131°F (-55°C to +55°C) T6 -67°F to +158°F (-55°C to +70°C) T5 Certified Temperature:

Weight: Pipe mount: 5.75 lb/2.6kg; Direct mount: 6.5 lb/3.0kg

Ingress NEMA 4X & 6, IP66 & IP67 Protection:

Supplied as 2 × 3/4" NPT (direct mount) or 3/4" **Entries:**

(pipe mount) as standard Other options available:

Up to $3 \times \frac{1}{2}$ " NPT or $3 \times \frac{3}{4}$ " NPT (direct mount); 1/2" NPT (pipe mount) — contact sales office to order

Terminals: Direct mount: 12 x 14AWG Pipe mount: 8 x 14AWG

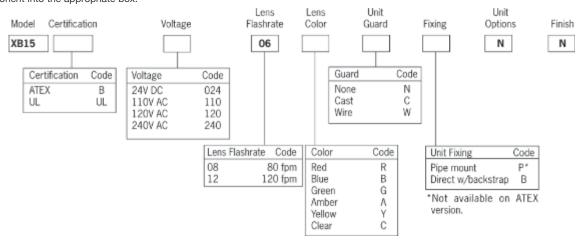
Relay Initiate: Available on all units - suitable for 24V DC

supplies only

Labels: Tag/Duty label option

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



2S

Specification—XB16UL Unit

Certification: UL Listed for USA and Canada:

Hazardous locations for USA and Canada Class I, Div. 2, Groups A, B, C, D

UL listing No. E251185

- Ordinary locations: Visual Signal Device: UL1638

UL listing No. E251185

- Hazardous locations for hearing impaired: UL1971

UL listing No. E251185

Material: Body: Glass reinforced polyester

Lens: U.V. stable polycarbonate Lens screws: stainless steel 316

Finish: Natural black or painted to customer specification

Voltage: 24, 48V DC

110, 120, 230, 240, 254V AC

Conforms to UL regulated voltage output (12V DC,

24V DC, 120V AC, 240V AC)

Certified -67°F to +158°F (-55°C to +70°C)

Temperature:

Tube Energy: 10 joules

Tube Life: > 1 × 10⁶ flashes

Weight: 2.2lb/1.0kg

Ingress NEMA 4X & 6, IP66 & IP67

Protection:

Entries: Standard 1 × 1/2" NPT pipe mount

Terminals: 8 × 14AWG

Labels: Tag/Duty label option

Electrical Ratings:

For Hazardous Locations and Ordinary Locations (UL1638) Units

	D	С	AC				
Voltage	24	48	110	120	230	240	254
Current (A) at 60 fpm	0.89	0.30	0.38	0.38	0.22	0.22	0.18
	0.89	0.30	0.38	0.38	0.22	0.22	0.18
Current (A) at 120 fpm	0.89	0.30	0.38	0.38	0.22	0.22	0.18

Effective intensity (Cd): 240 at 80 f.p.m.

Peak candlepower: 580,000 (Peak candlepower is the maximum light intensity generated by a flashing light during its light pulse)

For UL1971 Units Only

	D	С	AC				
Voltage	24	48	110	120	230	240	254
Current (A) at 60 fpm		1.52					
Current (A) at 80 fpm	1.22	1.52					
Current (A) at 120 fpm	1.22	1.52	0.38	0.38	0.78	0.78	0.18

Effective intensity (Cd): 240 at 80 fpm.

Peak candlepower: 580,000 (Peak candlepower is the maximum light intensity generated by a flashing light during its light pulse)

On UL1971 units, max. current rating is based on in-rush current. This is why the current ratings are not proportional as with other beacons/strobes.

UL 1971 On-axis output: 15 Cd.

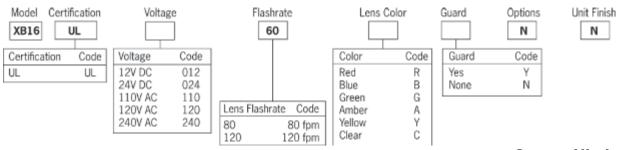
Note: 24V DC units are cerified for use in regulated 24V DC supplies (16–33V AC). 110/120V DC units are certified for use on regulated 120V AC supplies (96–132V AC). 230/240V DC units are certified for use on regulated 240V AC supplies (192–264V AC).

Multiplying factor for colored lenses:

Red	Blue	Amber	Green	Yellow	
0.15	0.12	0.51	0.49	0.86	

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



SM87 HXB	5 Joule Xenon	Strobe—Explosionproof	
A	Certification UL Listed for:	cULus, CSA, ATEX Class I, Div. 1, Groups C, D Class I, Zone 1	
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C	
	Ingress Protection	NEMA 4X & 6 IP66 & 67	7-7/16" 189mm
	Material	Alloy	
	Entries	Up to $2 \times \frac{1}{2}$ " or $\frac{3}{4}$ " NPT, M20, M25	1/ 9 19. /
	Weight	4.4lb/2.0kg approx.	
19	Options	Body & lens color, certification, lens guard, voltages 24–48V DC,110–254V AC	= - ø4-3/4" - s- øi2imm

Certification	Voltage	Lens Color	Ordering Code	Cat. #	Standard Product Configuration
ATEX EX II 2GD ATEX EX II 2GD	24V DC 24V DC	Red Amber	813005 813006	SM87HXBAB024RN1R1LNNR SM87HXBAB024AN1R1LNNR	5 joules, 2 × M20 Entries, 29Cd, Exd IIc
ATEX EX II 2GD ATEX EX II 2GD	240V AC 240V AC	Red Amber	813007 813008	SM87HXBAB240RN1R1LNNR SM87HXBAB240AN1R1LNNR	7 joules, 2 × M20 Entries, 39Cd, Exd IIc
ATEX EX II 2GD	24V DC	Red LED	813009	SM87LEDAB024RN1R1LNNR	192Cd, 2 × M20 Entries, Exd IIc
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	Red	869161	SM87HXBAUL024RN3R3LNNR	Standard models are in alloy, red body color, no tag or duty labels, 2 × 1/2" NPT
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	Amber	869162	SM87HXBAUL024AN3R3LNNR	
UL, cUL Listed, Class I, Div. 1, Groups C, D	110V AC	Red	869165	SM87HXBAUL110RN3R3LNNR	red body color, no tag or
UL, cUL Listed, Class I, Div. 1, Groups C, D	110V AC	Amber	869166	SM87HXBAUL110AN3R3LNNR	duty labels, 2 × ½" NPT entries, 32Cd, AExd IIB, 60 flashes per minute

XB11	5 Joule Xenon	Strobe – Hazardous Locations	
<i>(A)</i>	Certification UL Listed for:	cULus, ATEX Class I, Div. 2, Groups C, D Class I, Zones 1 & 2, AExd IIB T5	ø6-9/16" / 167mm
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C	
	Ingress Protection	NEMA 4X & 6 IP66 & 67	7-3/4"
	Material	Corrosion-free GRP	197mm
	Entries	2 × 1/2" NPT, 20mm	
0 =	Weight	2.6lb/1.2kg	
	Options	Body & lens color, voltages 24V DC, 110–254V AC	

Certification	Voltage	Body Color	Lens Color	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Red	Red	869171	XB11UL02406RNBNNNR	No tag or duty
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Red	Amber	869172	XB11UL02406ANBNNNR	labels, 2 × 1/2" NPT
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Natural Black	Clear	869173	XB11UL02406CNBNNNN	entries, 60 flashes
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Red	Clear	869174	XB11UL02406CNBNNNR	per minute
UL, cUL Listed, Class I, Div. 2, Groups C, D	110V AC	Red	Red	869175	XB11UL11006RNBNNNR	perminute
ATEX EX II 2GD	24V DC	Natural Black	Red	811101	XB11B02406RNBNNNN	GRP, natural black
ATEX EX II 2GD	24V DC	Natural Black	Amber	811102	XB11B02406ANBNNNN	body, no tag or duty
ATEX EX II 2GD	24V DC	Natural Black	Red	811103	XB11B24006RNBNNNN	labels, backstrap mounting, 2 × M20
ATEX EX II 2GD	24V DC	Natural Black	Amber	811104	XB11B24006ANBNNNN	entries, 60 flashes per minute

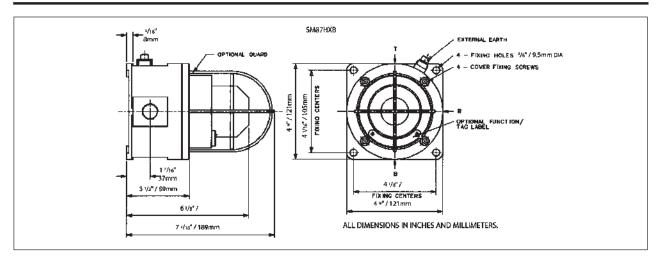
Crouse-Hinds

2S

Medium Intensity

Strobe Lights

MEDC Series



Specification—SM87HXB Unit

Certification: UL Listed for USA and Canada for Class I, Div. 1,

Groups C, D and Class I, Zone 1. Listing No. E187894.

CSA Certification:

to C22.2, Nos. 0, 0.4, 0.5, 9, 30-M 1986, 94-M91, 137-M 1981, Class I, Div. 1, Group 0, Enclosure 3/4, Cert. No. 96406.

ATEX approved:

EN50014, EN50018, EN50019

Cert. No. Baseefa 03ATEX0222, Exd IIC T6

Material: LM25 TF Marine Grade Alloy

Lens: Toughened Glass

Finish: Epoxy paint finish as standard or to customer's

specification

5.5lb/2.5kg. approx. Weight: Certified

Standard unit SM87 HXB: Temperature: -67°F to +158°F, -55°C to +70°C

High temperature unit:

–67°F to +185°F, –55°C to +85°C

Ingress NEMA 4X & 6, IP66 & 67 Protection:

Terminals: 4 off suitable for up to 14AWG conductor size

Duty & tag labels optional Labels:

Entries: Up to 4 off 1/2" or 3/4" NPT

	D	С		AC 50	/60Hz	
Voltage	24	48	110	120	240	254
Tube Energy (joules)	5	5	6	7	7	8
Peak Current Consumption (mA)	320	170	250	275	135	150
Power Consumption (Watts)	7.2	7.6	25	27	27	35
Effective Intensity (Cd)	29	29	32	39	39	44
Peak Candle Power	22213	22213	25061	30187	30187	34174
The above figures (Cd) are for	a clear len	s @ 1Hz fla	ash rate.			

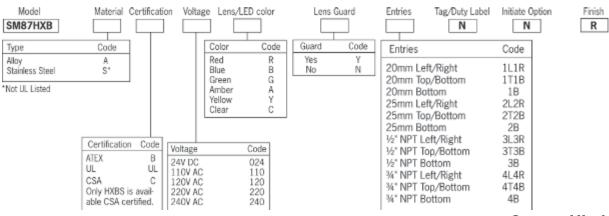
For Colored Lenses

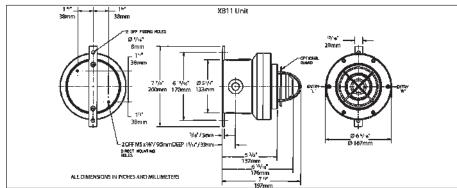
Color	Red	Blue	Amber	Green	Yellow
Multiplying Factor	0.15	0.12	0.51	0.49	0.86

The photometric data has been independently verified. A report is available if required.

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.





Specification—XB11 Unit

Specification—XB11 Unit					
Certification:	UL Listed for USA and Canada - Hazardous locations: Class I, Div. 2, Groups C, D Class I, Zones 1 & 2, AExd IIB T5 UL Listing No. E187894 - Ordinary locations: Visual Signal Device UL Listing No. S8128 ATEX approved: Exd IIB T5/T6 Cert. No. 99 ATEX 2195X CENELEC EN50014 and EN50018				
Material:	Body: Glass reinforced polyester Lens: Glass Cover Screws + Backstrap: Stainless steel 316				
Finish:	Natural black or painted to customer specification				
Weight:	5.5lb/2.5kg				
Certified Temperature:	Standard unit SM87 HXB: -67°F to +158°F, -55°C to +70°C -67°F to +158°F, -55°C to +70°C High temperature unit: -67°F to +185°F, -55°C to +85°C				
Ingress Protection:	NEMA 4X & 6, IP66 & 67				
Terminals:	6 off suitable for up to 14 AWG conductor size				

Duty/tag label optional

The beacon may be combined with an MEDC Sounder to create a visual/audible alarm.

Contact MEDC for price and specification.

2 × 1/2" NPT, 20mm

	DC	AC 50/60Hz			
Voltage	24	110	240		
XB11 Tube Energy (joules)	5	5	5		
Peak Current Consumption (mA)	320	100	60		
Effective Intensity (Cd)	29	29	29		
Peak Candle Power	22213	22213	22213		
Power Consumption (Watts)	8	11	18		
The Cd figures are for a clear lens @ 1Hz flash rate.					

For Colored Lenses

Color	Red	Blue	Amber	Green	Yellow
Multiplying Factor	0.15	0.12	0.51	0.49	0.86

The photometric data has been verified by BSI. A report is available if required.

Ordering Requirements

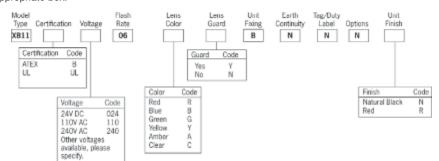
Labels:

Entries:

Unit:

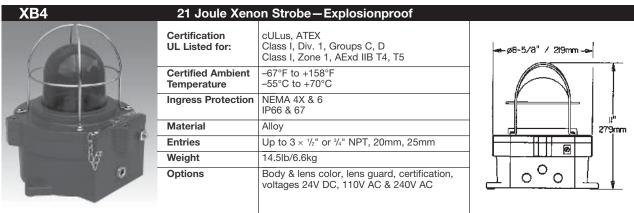
Strobe/Sounder

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

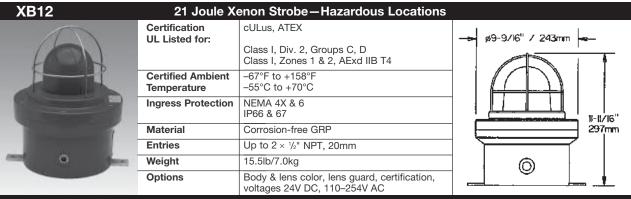


Crouse-Hinds

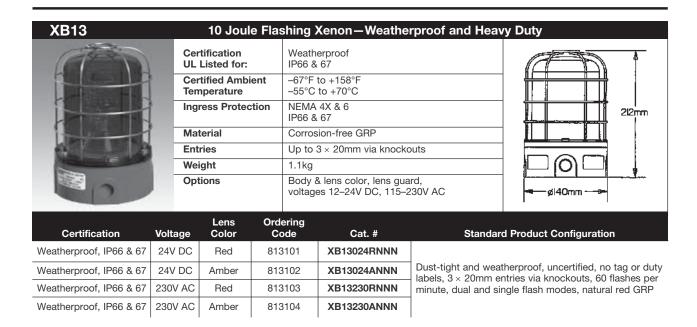
2S

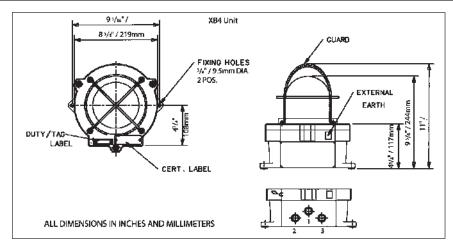


Certification	Voltage	Lens Color	Ordering Code	Cat. #	Standard Product Configuration
ATEX Approved Ex II 2G	24V DC	Red	814001	XB4BB8D2B3B06AN0RN1R	21 joules, 2 × M20 entries,
ATEX Approved Ex II 2G	240V AC	Red	814002	XB4BH8D2B3B06AN0RN1R	355Cd, 60 flashes per minute, no labels, red finish
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	Red	869121	XB4ULB8D2E3E06ANRN1R	Marine grade alloy, $2 \times \sqrt[3]{4}$
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	Amber	869122	XB4ULB8D2E3E06ANAN1R	NPT entries, no lens guard, 60 flashes per minute,
UL, cUL Listed, Class I, Div. 1, Groups C, D	110V AC	Red	869125	XB4ULE8D2E3E06ANRN1R	red finish
UL, cUL Listed, Class I, Div. 1, Groups C, D	110V AC	Amber	869126	XB4ULE8D2E3E06ANAN1R	



Certification	Voltage	Lens Color	Ordering Code	Cat. #	Standard Product Configuration	
ATEX Approved Ex II 2G	24V DC	Red	812101	XB12B02406RNBNNNN		
ATEX Approved Ex II 2G	24V DC	Amber	812102	XB12B02406ANBNNNN	21 joules, 2 × M20 entries,	
ATEX Approved Ex II 2G	240V AC	Red	812103	XB12B24006RNBNNNN	355Cd, 60 flashes per minute, no labels, black body	
ATEX Approved Ex II 2G	240V AC	Amber	812104	XB12B24006ANBNNNN	Tio labolo, black body	
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Red	869181	XB12UL02406RNBNNNR		
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Amber	869182	XB12UL02406ANBNNNR	Red painted GRP, no tag or duty labels, 2 × ½" NPT, 60 flashes per minute, 355 Cd	
UL, cUL Listed, Class I, Div. 2, Groups C, D	110V AC	Red	869185	XB12UL11006RNBNNNR		
UL, cUL Listed, Class I, Div. 2, Groups C, D	110V AC	Amber	869186	XB12UL11006ANBNNNR		





Specification—XB4 Unit

	715 1 51111			
Certification:	UL Listed for USA and Canada - Hazardous locations: Class I, Div. 1, Groups C, D Class I, Zone 1, AExd IIB T4 UL Listing No. E187894 - Ordinary locations: Visual Signal Device UL Listing No. S8128 ATEX approved: Exd IIC T5 Cert. No. Baseefa 02ATEX0224X			
Materials:	LM25TF Marine Grade Alloy body Grade 316 ANC4B Stainless Steel body Toughened Wellglass			
Finish:	Red epoxy paint finish as standard or to customer's specification			
Weight:	LM25: 14.5lb/6.6kg. Stainless Steel: Add 18.5lb/8.5kg.			
Certified Temperature:	−67°F to +158°F −55°C to +70°C			
Ingress Protection:	NEMA 4X & 6, IP66 & 67			

	DC	AC 50/60Hz	
Voltage	24	110	240
Tube Energy (joules)	21	21	21
Peak Current Consumption (mA)	1400	350	185
Effective Intensity (Cd)	355	355	355
Peak Intensity (Cd)	123691	123691	123691

Note: The above figures (Cd) are for a clear lens @ 1Hz flash rate.

For Colored Lenses

Color	Red	Blue	Amber	Green	Yellow
Multiplying Factor (Approximate)	0.15	0.12	0.51	0.49	0.86

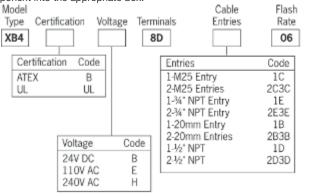
The photometric data has been independently verified. A report is available if required.

Ordering Requirements

Terminals:

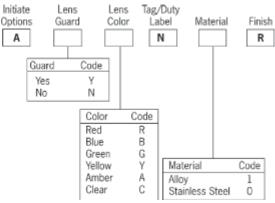
Entries:

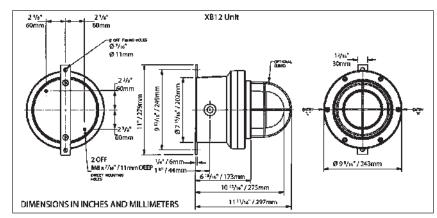
The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



8 off suitable for up to 8 AWG conductor size

Up to $3 \times \frac{1}{2}$ " or $\frac{3}{4}$ " NPT, 20mm, 25mm





Specification-XB12

opecification—AD12				
Certification:	UL Listed for USA and Canada - Hazardous locations: Class I, Div. 2, Groups C, D Class I, Zone 1 & 2, AExd IIB T4/T5 UL Listing No. E187894 - Ordinary locations: Visual Signal Device UL Listing No. S8128 ATEX approved: Exd IIB T4/T5 Cert. No. 99 ATEX 2196			
Materials:	Body: Glass reinforced polyester Lens: Toughened Glass			

Materials:	Body: Glass reinforced polyester
	Lens: Toughened Glass
	Cover Screws + Backstrap:
	Stainless steel 316

Finish:	Natural black or painted to customer
	specification

Weight:	15.5 lb/7.0kg

Certified Temperature:	-67°F to +158°F	(-55°C to +70°C)
-------------------------------	-----------------	------------------

hazardous locations -67°F to +131°F (-55°C to +55°C) ordinary locations

Ingress Protection:	NEMA 4X and 6, IP66 & 67
Terminals:	6 off suitable for up to 10 AV

Terminals:	6 off suitable for up to 10 AWG conductor size
l ahels:	Duty/tag label optional

2 × 1/2" NPT, 20mm

	DC	AC 50/60Hz	
Voltage	24	110	240
XB12 Tube Energy (joules)	21	21	21
Peak Current Consumption (mA)	1400	350	185
Effective Intensity (Cd)	355	355	355
Peak Intensity (Cd)	123691	123691	123691
Power Consumption (Watts)	33.6	38.5	44.4

The Cd figures are for a clear lens @ 1Hz flash rate.

For Colored Lenses

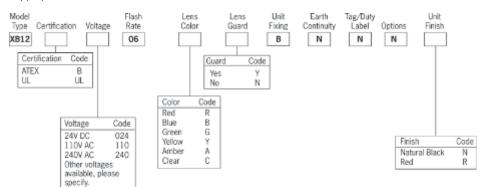
Color	Red	Blue	Amber	Green	Yellow
Multiplying Factor	0.15	0.12	0.51	0.49	0.86

The photometric data has been verified by BSI. A report is available if required.

Ordering Requirements

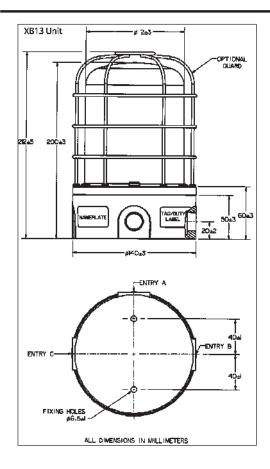
Entries:

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



Crouse-Hinds

2S



Materials:	(B13 Unit UV stable glass reinforced polyester body UV stable polycarbonate cover/lens Retained stainless steel cover screws		
Finish:	Self colored red as standard or epoxy coated to customer's specification		
Tube Energy:	10 joules (second flash 7.5	joules)	
Weight:	1.1kg		
Operating Temperature:	–55°C to +70°C		
Ingress Protection:	IP66 & IP67		
Tube Life:	>1 × 106 flashes		
Voltage:	12V DC, 24V DC, 115V AC	C, 230V AC	
Current Consumption:	Voltage 12V DC 24V DC 115V AC 230V AC	Current Consumption 1.4A 650mA 180mA 100mA	
Tube Type:	Xenon discharge		
Lens Color:	Various colors available		
Terminals:	8 x 2.5mm ²		
Flash Rate:	1 flash per second		
Dual Flash Rate:	Time between dual flashes = 0.5 seconds Charging time = 1 second Cycle repeats every 1.5 seconds		
Labels:	Duty and tag labels availab	ole	
Tube Type:	Up to 3 × M20 via knockou	uts	
Intensity:	Effective intensity 220 Cd. Peak intensity 75,000 Cd. (Figures are for clear lens at 1Hz flash rate).		

For Colored Lenses

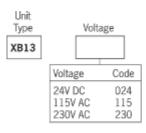
Color	Red	Blue	Amber	Green	Yellow
Multiplying Factor	0.15	0.12	0.51	0.49	0.86

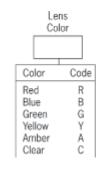
Options

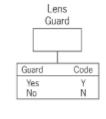
Ν

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.







Unit Finish is Red	
N	

The Hazard•Gard® EXFASC Series is a visual fire alarm signaling device for hazardous areas. The EXFASC Series strobes are UL 1971 Listed for indoor signaling applications for the hearing impaired in non-sleeping areas. They are also UL Listed for Type 3R, 4X installations. The strobes are available for pendant, wall and ceiling mounts.

The EXFASC Series Fire Alarm Explosionproof Strobe contains a supervisory diode for use in fire alarm applications. Under normal operation the diode is reversed biased, meaning it blocks voltage from being applied to the strobe light and prevents it from lighting. When a fire-initiating device such as a smoke alarm is activated, the diode's polarity is reversed through a fire alarm panel. The diode becomes forward biased, allowing voltage to the device and activating the strobe.

Applications:

• Visual fire alarm signaling device for hazardous areas

Typical Industries:

- Energy exploration
- Utilities
- Wastewater treatment plants
- Pulp and paper plants
- Petrochemical plants
- Petroleum refineries
- Oil rigs

Features and Benefits:

- Meets NFPA requirements for fire safety warning devices
- State of the art electronic design (full wave rectified design)
 Low current draw is efficient

24V DC regulated full wave rectified

Limited in-rush current favorable to other fire alarm system components

Proven, reliable circuitry designed specifically for use with fire alarm control panels

- · Available in pendant, wall and ceiling mount
- Strobe light produces 65 flashes per minute
- Factory sealed—no external seals required
- Quick connect—strobe fixture threads onto mounting module for easy installation
- Small compact size—ceiling mount is 133/4-inch long

Certifications and Compliances:

- Class I, Division 1, Groups C, D
- Class I, Zones 1 and 2, Group IIB
- Class II, Division 1, Groups E, F, G
- Class III
- UI 1638 and 1203 Listed
- UL 1971 Listed for indoor visual signaling for the hearing impaired in non-sleeping areas
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP66

Materials & Finishes:

- Body, mounting modules and guard—Copper-free aluminum
- Globe-Heat and impact-resistant glass
- Gaskets-Silicone
- External hardware—Stainless steel
- Internal components—Solid-state electronics in a moistureresistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance



Temperature Performance Data:

See page 1203

Ratings:

- 16-33V DC
- Operating Current: 1.08-0.83 amps
- Peak Candlepower: 800,000

Hub Size:

• 3/4-inch NPT pendant, ceiling and wall mount

Ordering Information:

Step 1 - Order Strobe Type

Catalog Number	Voltage	Lens Color	NEMA Rating
FIRE ALARM RATE	D EXPLOSIONPRO	OF STROBE	
EXFASC301/16 33	24 VDC regulated	Clear	3R, 4X

Step 2 - Order Mounting Module

Catalog Number	Hub Size	Mounting Style
EVMP2	3/4"	Pendant
EV22 & EV87	3/4"	Wall
EV22	3/4"	Ceiling
EVMJ4	11/4"	Stanchion

2S

2S Explosionproof Strobe Lights HAZARD•GARD® Series

Cl. I, Div. 1, Groups C, D Cl. I, Zone 1 and 2, Group IIB Cl. II, Div. 1, Groups E, F, G Class III UL and cUL Listed NEMA 4X; IP66

The Hazard•Gard EXS and EXDS Series Explosionproof Strobe Lights are designed for installation indoors and outdoors in locations which are hazardous due to the presence of flammable vapors or gases, ignitible dusts or ignitible fibers and flyings. The units are UL Listed for Type 3R and 4X installations. The 120V and 24V DC models are Marine Rated. The strobes are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

The **EXDS Series** is diode polarized for use in electrically supervised circuits. Electrically supervised circuits are typically used in life-safety or security applications.

Under normal operation the diode is reversed biased, meaning it blocks voltage from being applied to the strobe and prevents it from lighting. When an initiating device such as a smoke detector is activated, the diode's polarity is reversed through a circuit panel. The diode becomes forward biased, allowing voltage to the device and activating the strobe.

Applications:

- Condition signaling
- · Equipment obstruction warning
- · Security alert
- · Emergency evacuation signaling
- In areas where audible signals cannot be heard

Typical Industries:

- Utility gas plants
- · Petroleum refineries
- Wastewater treatment plants
- Chemical and petrochemical
- Mining
- · Pulp and paper

Features and Benefits:

- Strong strobe signal that produces 65 flashes per minute
- Compact design will not obstruct in low ceiling or small areas, ceiling mount is only 13³/₄"-inch long
- Quick connect—strobe fixture threads onto mounting module for easy installation
- Factory sealed-no external seals required
- · Available in pendant, wall, stanchion and ceiling mount
- Available in six different globe colors—clear, red, blue, amber, green and magenta
- Silicone gasket seals out dirt and moisture

Certifications and Compliances:

- Class I, Division 1, Groups C, D
- Class I, Zones 1 and 2, Group IIB
- Class II, Division 1, Groups E, F, G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed (120V AC and 24V DC only)
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP66



Materials and Finishes:

- Body, mounting modules and guard-Copper-free aluminum
- Globe—Heat and impact-resistant glass
- · Gaskets-Silicone
- External hardware-Stainless steel
- Internal components—Solid-state electronics in a moistureresistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings:

- 120V AC (EXS), 12–48V DC (EXSNM) and 24V DC nominal, voltage operating range is 16–33V DC (EXDS)
- Operating Current: 0.10 amps at 120V AC 1.2–3.8 amps at 12–48V DC 0.8 amps at 24V DC
- Peak Candlepower: 800,000

Hub Size:

- 3/4-inch NPT pendant, ceiling and wall mount
- 11/4-inch NPT stanchion mount

Explosionproof Strobe Lights HAZARD•GARD® Series

Cl. I, Div. 1, Groups C, D Class III

Cl. I, Zone 1 and 2, Group IIB Cl. II, Div. 1, Groups E, F, G

Ordering Information:

Step 1 - Order Strobe Type

Cat. #	Voltage	Lens Color	NEMA Rating			
Explosionproof Strobes						
EXS301A/120	120V AC	Amber	3R 4X, Marine			
EXS301B/120	120V AC	Blue	3R 4X, Marine			
EXS301C/120	120V AC	Clear	3R 4X, Marine			
EXS301G/120	120V AC	Green	3R 4X, Marine			
EXS301M/120	120V AC	Magenta	3R 4X, Marine			
EXS301R/120	120V AC	Red	3R 4X, Marine			
EXSNM301A/12 48	12-48V DC	Amber	3R 4X			
EXSNM301B/12 48	12-48V DC	Blue	3R 4X			
EXSNM301C/12 48	12-48V DC	Clear	3R 4X			
EXSNM301G/12 48	12-48V DC	Green	3R 4X			
EXSNM301M/12 48	12-48V DC	Magenta	3R 4X			
EXSNM301R/12 48	12-48V DC	Red	3R 4X			
Diode Polarized Explosionpr	oof Strobes		_			
EXDS301A/24	24V DC	Amber	3R 4X, Marine			
EXDS301B/24	24V DC	Blue	3R 4X, Marine			
EXDS301C/24	24V DC	Clear	3R 4X, Marine			
EXDS301G/24	24V DC	Green	3R 4X, Marine			
EXDS301M/24	24V DC	Magenta	3R 4X, Marine			
EXDS301R/24	24V DC	Red	3R 4X, Marine			

Step 2 - Order Mounting Module

UL and cUL Listed

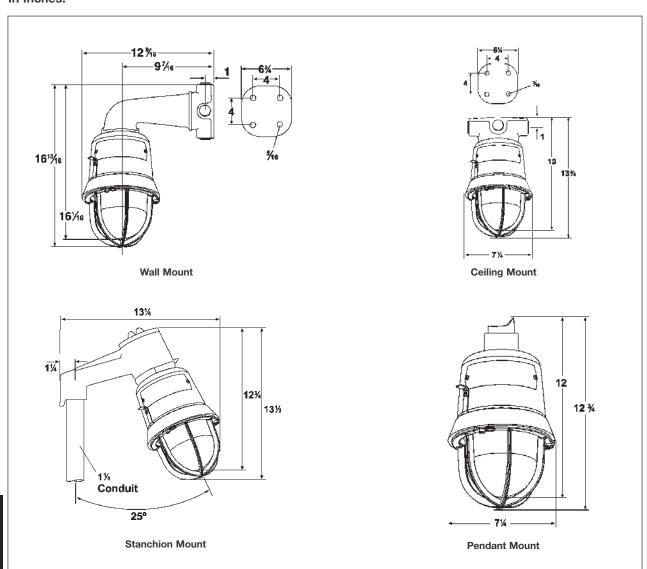
NEMA 4X; IP66

Cat. #	Hub Size	Mounting Style
EVMP2	3/ ₄ "	Pendant
EV22 and EV87	3/ ₄ "	Wall
EV22	3/ ₄ "	Ceiling
EVMJ4	1 1/ ₄ "	Stanchion

Temperature Performance Data:

Temperature Performance Data:			Class I, Div. 1, 2,		
	Ambient Max. Temp.	Supply Wire	Groups C, D Class I, Zone 1, Group II B	Class II, Class III, Div. 1, Groups E, F, G	Class II, Class III, Div. 2, Groups F, G
EXFASC Series Fire Alarm Voltage 24V DC Regulated Full Wave Rectified (Operating Range 16–33V DC) (Marine Listed)	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T5 (100°C)	T4 (135°C)	T4 (135°C)
EXS Series Strobe Light Voltage 120V AC (Marine Listed)	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T6 (85°C)	T4 (135°C)	T4 (135°C)
	65°C	105°C	T6 (85°C)	T4 (135°C)	T4 (135°C)
EXSNM Series Strobe Light Voltage 12–48V DC (Not Marine Listed)	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T6 (85°C)	T4 (135°C)	T4 (135°C)
	65°C	105°C	T6 (85°C)	T4 (135°C)	T4 (135°C)
EXDS Series Strobe 40°C Light-Diode Polarized Voltage 24V DC (Marine Listed)	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T5 (100°C)	T4 (135°C)	T4 (135°C)

Dimensions In Inches:



Net Luminaire Weights:

Туре	lbs.
Luminaire Housing with Guard	11.0

Туре	lbs.
Add mounting modules:	
Pendant	1.0
Ceiling	1.0
Wall	4.5
Stanchion	2.5

Explosionproof Rotating Beacons HAZARD•GARD® Series

Cl. I, Div. 1, Groups C, D Cl. I, Zone 1 and 2, Group IIB NEMA 4X; IP66 Cl. II, Div. 1, Groups E, F, G Class III

UL and cUL Listed

Eaton's Crouse-Hinds Hazard • Gard EXR Series Explosion proof Rotating Beacons are designed for installation in hazardous locations, such as manufacturing plants, heavy industrial facilities, refineries, chemical, petrochemical, pharmaceutical and offshore drilling platforms.

The units are UL Listed for Type 3R, 4X and marine installations. The rotating beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

The EXDR Series Explosionproof Rotating Beacon is diode polarized for use in standard 24-28V DC electrical circuits or in electrically supervised circuits. Electrically supervised circuits are typically used in life safety or security applications.

Under normal operation in an electrically supervised circuit, the diode is reversed biased, meaning it blocks voltage from being applied to the rotating beacon and prevents it from lighting. When a warning detecting device is activated, the diode's polarity is reversed through a circuit panel. The diode becomes forward biased, allowing voltage to the device and activating the rotating

Applications:

- · Security alert
- · Equipment obstruction warning
- · Obstacle warning
- Status indication of a process
- Areas under construction
- · Supplement audible signaling or off limits

Typical Industries:

- Utility gas plants
- Pharmaceutical plants
- Wastewater treatment plants
- Refineries
- · Chemical plants
- Mining

Features and Benefits:

- Powerful halogen rotating beacon emits bright light to provide critical visual warning
- · Available in pendant, wall, stanchion and ceiling mount
- Available in six different globe colors—amber, blue, clear, green, magenta and red
- Beacon produces 75 rotations per minute
- Factory sealed—no external seals required
- · Quick connect-strobe fixture threads onto mounting module for easy installation

Certifications and Compliances:

- Class I, Division 1, Groups C, D
- · Class II, Division 1, Groups E, F, G
- Class I, Zones 1 & 2, Group IIB
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed
- NEMA 4X watertight, IP66



Materials and Finishes:

- Body, mounting modules and guard-Copper-free aluminum
- Globe—Heat and impact-resistant glass
- Gaskets—Silicone
- External hardware-Stainless steel
- Internal components Solid-state electronics in a moisture-resistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings:

- 120V AC (EXR) and 24-28V DC (EXDR)
- Operating Current: 0.382 amps at 120V AC 0.8 amps at 24-28V DC
- Peak Candlepower: 3328 (EXR) 2838 (EXDR)

Hub Size:

- 3/4-inch NPT pendant, ceiling and wall mount
- 11/4-inch NPT stanchion mount

2S Explosionproof Rotating Beacons HAZARD•GARD® Series

Cl. I, Div. 1, Groups C, D Cl. I, Zone 1 and 2, Group IIB Cl. II, Div. 1, Groups E, F, G Class III

UL and cUL Listed NEMA 4X; IP66

Ordering Information:

Step 1	-	Order	Rotating	Beacon	Type
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Cat. #	Voltage	Lens Color	NEMA Rating				
Explosionproof Rotating Beacons							
EXR301A/120	120V AC	Amber	3R, 4X, Marine				
EXR301B/120	120V AC	Blue	3R, 4X, Marine				
EXR301C/120	120V AC	Clear	3R, 4X, Marine				
EXR301G/120	120V AC	Green	3R, 4X, Marine				
EXR301M/120	120V AC	Magenta	3R, 4X, Marine				
EXR301R/120	120V AC	Red	3R, 4X, Marine				
Diode Polarized Explos	sionproof Rotating E	Beacons					
EXDR301A/24 28	24-28V DC	Amber	3R, 4X, Marine				
EXDR301B/24 28	24-28V DC	Blue	3R, 4X, Marine				
EXDR301C/24 28	24-28V DC	Clear	3R, 4X, Marine				
EXDR301G/24 28	24-28V DC	Green	3R, 4X, Marine				
EXDR301M/24 28	24-28V DC	Magenta	3R, 4X, Marine				
EXDR301R/24 28	24-28V DC	Red	3R. 4X. Marine				

Step 2 - Order Mounting Module

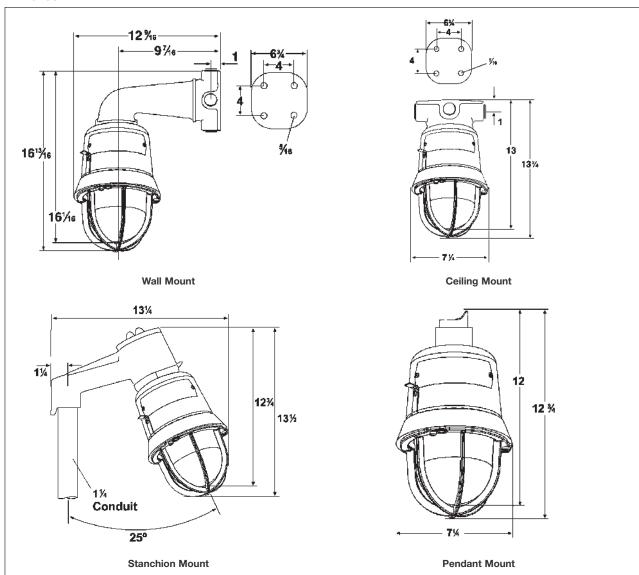
Cat. #	Hub Size	Mounting Styl
EVMP2	3/4"	Pendant
EV22 & EV87	3/4"	Wall
EV22	3/4"	Ceiling
EVMJ4	11/4"	Stanchion

Temperature Performance Data:

Description	Ambient Max. Temp.	Supply Wire	Class I, Div. 1, 2, Groups C, D Class I, Zone 1, Group IIB	Class II, Class III, Div. 1, Groups E, F, G	Class II, Class III, Div. 2, Groups F, G
EXR Series Rotating Beacon Voltage 120V AC	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T5 (100°C)	T4 (135°C)	T4 (135°C)
	65°C	105°C	T5 (100°C)	T4 (135°C)	T4 (135°C)
EXR Series Rotating Beacon—Diode Polarized Voltage 24–28V DC	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T6 (85°C)	T4 (135°C)	T4 (135°C)
	65°C	105°C	T6 (85°C)	T4 (135°C)	T4 (135°C)

Dimensions

In Inches:



Net Luminaire Weights:

lbs.
11.0
lbs.
1.0
1.0
4.5
2.5

2S

Hazardous

Description	Page No.
Steady-On Beacons - MEDC Series	
FB4	see pages 1257-1258
FB11 UL	see pages 1259-1261
FB12 UL	see pages 1259-1261
FB15	see pages 1260-1262
FL4	see pages 1257-1258
SM87 LU3	see pages 1263-1264
SM87 LU1	see pages 1263-1264
teady-On Beacons - Hazard•Gard EX Series	
EXSO, EXDSO	see pages 1265-1267
Steady-On Beacons - Compact Fluorescent	
VF	see pages 1268-1269



FB15 Direct Mount (with wire guard)

FB15 Pipe Mount (with cast guard)

The units are UL Listed for Type 3R, 4X and marine installations. The steady-on beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

Typical industrial and commercial applications include food processing plants, refineries, mines, tankers, laboratories, sewage treatment plants, off-shore oil rigs, water and filtration plants and chemical plants. The diode polarized steady-on beacon is used in electrically supervised circuitry for life-safety or security applications.

Applications:

- Safety lighting
- Continuous source to communicate
- Obstacle warning
- · Exit or entrance lights
- For identifying the location of safety equipment such as showers or emergency telephones

Typical Industries:

- Chemical plants
- Storage handling
- Dust conveyor systems
- Energy exploration
- Textile mills
- · Flour and feed mills

Certifications and Compliances:

- Class I, Division 1, Groups C, D
- Class I, Zone 1 & 2, Group IIB
- Class II, Division 1, Groups E, F, G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed

Cl. I, Zone 1

• NEMA 4X watertight, IP66

NEMA 4X

IP66 & IP67

Cl. I, Zone 1

MEDC Series

FB4	100 Watt Steady Incande	scent Light - Explosionp	roof
4	Certification UL Listed for:	cULus, ATEX Class I, Div. 1, Groups C, D Class I, Zone 1, AExd IIB T4	≠ ø8-5/8" / 2/9mm →
	Certified Ambient Temperature	-67°F to +131°F -55°C to +55°C	
	Ingress Protection	NEMA 4X & 6 IP66 & 67	
	Material	Alloy	279mm
	Entries	Up to 3 × 1/2" or 2 × 3/4" NPT	
	Weight	13lb/6.4kg	-0 -
	Options:	Body & lens color, lens guard, certification, voltage 120V AC only	2100151
Certification Ord	ering Code Cat. #	Standard	Product Configuration
III all Listed Class I		Marino grado allov	120V AC 100W bulb (not included)

UL, cUL Listed, Class I, Div. 2, Groups C, D

17800002

FB4EUL8U1N100B1N1G

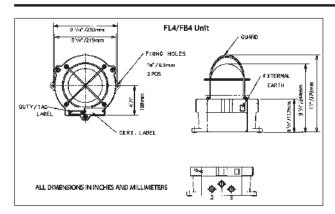
Marine grade alloy, 120V AC, 100W bulb (not included) blue lens, lens guard, no labels, gray finish

FL4	13–39 Watt Steady Fluorescent Light – Explosionproof			
	Certification UL Listed for:	UL, ATEX Class I, Div. 1, Groups C, D Class I, Zone 1, AExd IIC T5	ø8-5/8" / 2/9mm ->	
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C		
0	Ingress Protection	NEMA 4X & 6 IP66 & 67		
0 90	Material	Alloy	279mm	
The state of the s	Entries	Up to $3 \times \frac{1}{2}$ " NPT or $2 \times \frac{3}{4}$ " NPT		
7 . 8	Weight	14.5lb/6.6kg		
	Options:	Body & lens color, lens guard, certification, voltages 24V DC, 120V, 240V AC	7100171	

Certification	Ordering Code	<i>υαι.</i> #	Standard Froduct Configuration
UL Listed, Class I, Div. 2, Groups C, D	27800006	FL4BUL8U2M3M13R1N1RZ	Marine grade alloy, 24V DC, 2 x $\frac{1}{2}$ " NPT entries, 13W tube (not included), red lens, lens guard, red finish , one certified plug

3S

MEDC Series



FL4 Lamp Details

Unit Type	Lamp Type	Lamp Ref.	Holder Type		
FL4 DC	Osram Dulux D/E 13W	DD/E 13/XX	G24q-1		
	Philips PLC 13W	PLC 13 P4	G24q-1		
FL4 AC	Osram Dulux D 13W	DD 13	G24d-1		
	Philips PLC 13W	PLC 13	G24d-1		

Osram Color XX = (21 = Cool white) (31 = Warm white) (41 =

Temperature Ratings

Type	Voltage/Wattage	Lamp Ref.	Max. Amb.
FL4	DC units	DD/E 13/XX	55°C
	AC units	PLC 13 P4	55°C
FB4	60W	DD 13	55°C
	100W	PLC 13	55°C

Specification—FL4 and FB4 Units

Certification: UL Listed for USA and Canada

- Hazardous locations:

Class I, Div. 1, Groups C, D Class I, Zone 1, AExd IIB T4/T5

UL Listing No. E187894

- Ordinary locations: Visual-Signal Device (FL4 only).

UL Listing No. S8128. ATEX approved:

Exd IIC

Certificate No. Baseefa 02ATEX0224X

Material: LM25TF Marine Grade Alloy body Grade 316 ANC48 Stainless Steel body

Toughened Wellglass

FL4: Up to 3 x 13 Watt PL compact Models:

fluorescent lamps

FB4: 100 watt GLS incandescent lamps. E27 holder

as standard

Finish: Gray epoxy paint finish as standard or to customer's

specification

FL4: 24V DC, 120V AC, 240V AC ± 10% 50/60hz. Voltage: FB4: 120V AC ± 10% 50/60hz.

> FL4: 14-17lb/6.5-7.9kg (add 19lb/8.4kg for stainless steel) FB4: 13lb/6.4 kg

FL4: -4°F to +131°F (-20°C to + 55°C) Certified FB4: -67°F to +131°F (-55°C to + 55°C) Temperature:

NEMA 4X & 6 Ingress

Weight:

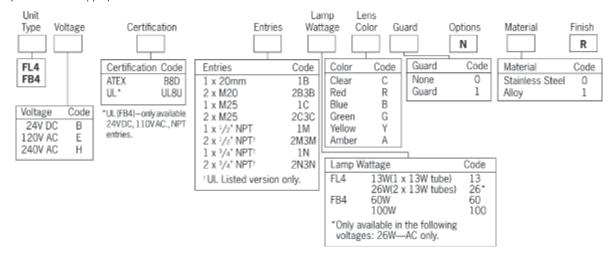
Protection: IP66 & IP67

Lamps: Units are supplied without lamps Terminals: 8 off suitable for up to 8 AWG conductor size

Up to $3 \times \frac{1}{2}$ " NPT or $2 \times \frac{3}{4}$ " NPT **Entries:**

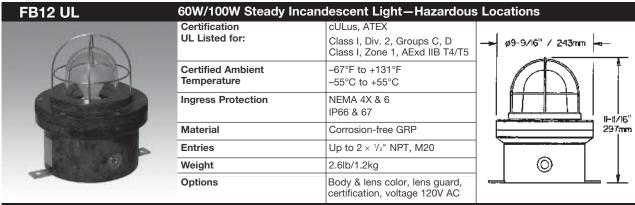
Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.





Certification	Ordering Code	Cat. #	Standard Product Configuration
ATEX	32500004	FB11B02410RNBNNN	24V DC, 10W bulb, red lens, mounting bracket, natural black finish
UL, cUL Listed, Class I, Div. 2, Groups C, D	32500028	FB11UL02410GNBNNR 10W incandescent beacon, 24V DC, green lens, no lens guard, 2 × ½ NPT entries, painted red enclosure	
UL, cUL Listed, Class I, Div. 2, Groups C, D			10W incandescent beacon, 110V AC, green lens, no lens guard, 2 × ½ NPT, painted red enclosure



Certification	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 2, Groups C, D	326023	FB12UL12060CNBNNN	120V AC, 60W bulb, clear lens, mounting bracket, no labels, natural black finish
UL, cUL Listed, Class I, Div. 2, Groups C, D	32600035	FB12UL12060GNBNNR	60W incandescent beacon, 120V AC, green lens, no lens guard, 2 \times ½ NPT entries in a painted red enclosure
UL, cUL Listed, Class I, Div. 2, Groups C, D	32600036	FB12UL02460GNBNNR	60W incandescent beacon, 24V DC, green lens, no lens guard, 2 \times ½ NPT entries, painted red enclosure
UL, cUL Listed, Class I, Div. 2, Groups C, D	32600037	FB12UL120100GNBNNR	100W incandescent beacon, 24V DC, green lens, no lens guard, 2 \times ½ NPT entries, painted red enclosure

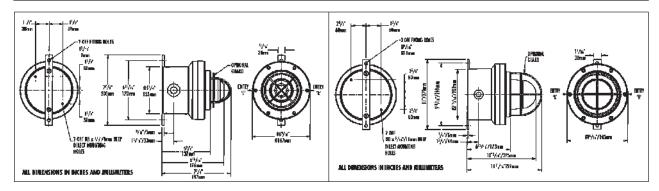
CI. I, Div. 1 (FB4 & FL4) CI. I, Div. 2 (FB11, FB12 & FB15) CI. I, Zone 1

NEMA 4X IP66 & IP67

MEDC Series

FB15	100W Steady Incandescent Light—Hazardous & Ordinary Locations				
	Certification UL Listed for:	cULus, ATEX Class I, Div. 2, Groups A, B, C, D Class I, Zone 1, AExd IIC T3/T4			
	Certified Ambient Temperature	−67°F to +158°F −55°C to +70°C			
	Ingress Protection	NEMA 4X & 6 IP66 & 67			
	Material	Corrosion-free GRP	8-29/64 ¹ 2-2hr-1 42-29/64 ¹		
	Entries	Up to 3 x ½" NPT or 3 x ¾" NPT			
	Weight	6-8lb/2.6-3.6kg	\$5 79/37" \$5 79/37" = \$6 79/37"		
	Options	Body & lens color, lens guard, lamp wattage, unit fixing, mounting method, voltages 12–48V DC, 110–254V AC			

Certification	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600001	FB15UL120100GNANR	120V AC, 100W bulb, green lens, mounting bracket, no labels, red finish
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600020	FB15UL120100ANPNN	100W incandescent beacon, 120V AC, amber lens, no lens guard, pipe mounting, 1 x $^3\!\!/$ NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600021	FB15UL120100RNPNN	100W incandescent beacon, 120V AC, red lens, no lens guard, pipe mounting, 1 x 3/4 NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600022	FB15UL120100GNPNN	100W incandescent beacon, 120V AC, green lens, no lens guard, pipe mounting, 1 x $^{3}\!\!/$ NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600023	FB15UL120100CNPNN	100W incandescent beacon, 120V AC, clear lens, no lens guard, pipe mounting, 1 x $^{3}\!\!/$ NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600024	FB15UL120100BNPNN	100W incandescent beacon, 120V AC, blue lens, no lens guard, pipe mounting, 1 x $^{3}\!\!/$ NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600025	FB15UL024100ANPNN	100W incandescent beacon, 24V DC, amber lens, no lens guard, pipe mounting, 1 x $^3\!\!/$ NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600026	FB15UL024100RNPNN	100W incandescent beacon, 24V DC, red lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600027	FB15UL024100GNPNN	100W incandescent beacon, 24V DC, green lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600028	FB15UL024100CNPNN	100W incandescent beacon, 24V DC, clear lens, no lens guard, pipe mounting, 1 x 3/4 NPT entry, natural black enclosure
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	47600029	FB15UL024100BNPNN	100W incandescent beacon, 24V DC, blue lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure

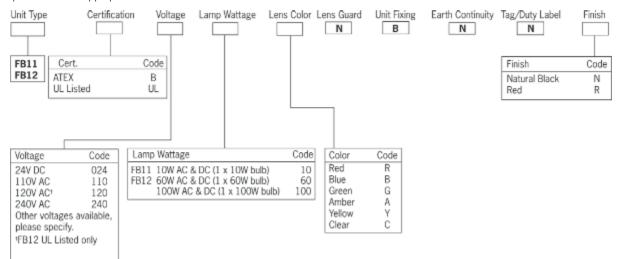


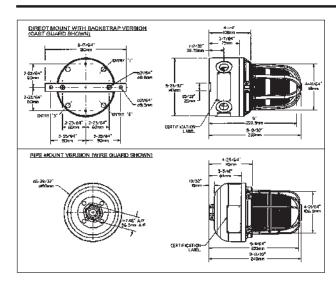
Specification-FB11 and FB12 Units

Models:	FB11 & FB12-Incandescent	Finish:	Natural black or painted to customer specificatio		
Certification:	UL Listed for USA and Canada	Ingress Protection: NEMA 4X & 6, IP66 & IP67			
	Class I, Div. 2, Groups C, DClass I, Zone 1, AExd IIB T4/T5UL listing No. E187894	Terminals:	FB11: 6 x 14 AWG FB12: 6 x 10 AWG		
	ATEX approved:	Labels:	Duty/Tag Label optional		
	CENELEC EN50014 and EN50018 FB11: Cert. No. 99 ATEX 2195X	Entries:	2 x ½" NPT		
FB11: Cert. No. 99 ATEX 2193X FB12: Cert. No. 99 ATEX 2196		Certified	FB11: -67°F to +131°F (-55°C to +55°C) T4		
Voltage:	FB11: 24, 48V DC 110, 220, 240, 250V AC FB12: 120V AC	- Temperature:	-67°F to +104°F (-55°C to +40°C) T5. FB12: -67°F to +131°F (-55°C to +55°C) T4 -67°F to +104°F (-55°C to +40°C) T5.		
Incandescent:	FB11: 10W incandescent fitted as standard FB12: 60W or 100W incandescent fitted as standard	- Weight:	FB11: 6.2lb / 2.8kg. FB12: 16.7lb / 7.6kg.		
Material:	Body: Glass reinforced polyester Lens: Glass Cover screws + backstrap: stainless steel 316	-			

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.





Electrical Ratings:

	D	С			AC		
Voltage	24	48	110	120	230	240	254
Current (A) - 60W lamp	2.5	.67	0.55	0.50	0.26	0.25	0.24
Current (A) -100W lamp	4.2	.73	0.91	0.83	0.43	0.42	0.39

Specification—FB15 Unit

Certification: UL Listed for USA and Canada:

- Hazardous locations
Class I, Div. 2, Groups A, B, C, D
Class I, Zone 1, AExd IIC T3/T4
UL listing No. E187894

- Ordinary locations: Visual Signal Device UL listing No. S8128 CENELEC/ATEX approved

CENELEC/ATEX approved
CENELEC EN50014 & EN50018
ATEX Cert. No.
Baseefa 04ATEX0009X

Material: Body: Glass reinforced polyester Lens: Glass Backstrap: Stainless steel 316

Wire Guard (optional): Stainless steel wire Cast Guard (optional): Aluminium LM25M

Finish: Natural black or epoxy painted to customer specification

Voltage: 24, 48V DC 110, 120, 230, 240, 254V AC

Lamp Type: 60W or 100W GLS incandescent

Lamp Holder: E27 as standard

Certified 60W: -67°F to +131°F (-55°C to +55°C) T4

Temperature: -67°F to +158°F (-55°C to +70°C) T3 100W: -67°F to +104°F (-55°C to +40°C) T4

 Weight:
 Pipe mount: 5.75lb/2.6kg;

 Direct mount: 6.5lb/3.0kg

 Ingress
 NEMA 4X & 6, IP66 & IP67

Protection:
Entries: Supplied as 2 x

ntries: Supplied as 2 x M20, up to 3 x M20 or 3 x M25 Supplied as 2 x ½" NPT (direct mount) or ¾"

(pipe mount) as standard Other options available:

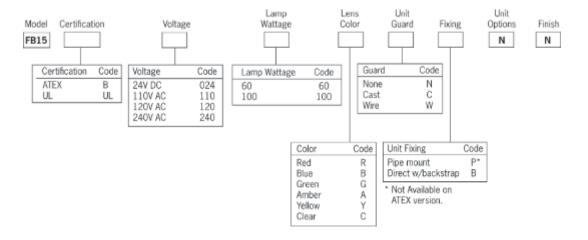
Up to 3 x $\frac{1}{2}$ " NPT or 3 x $\frac{3}{4}$ " NPT (direct mount); $\frac{1}{2}$ " NPT (pipe mount) — contact sales office to order

Terminals: Direct mount: 12 x 14AWG Pipe mount: 8 x 14AWG

Labels: Tag/duty label option

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box. Standard products available for immediate shipping - contact sales office for details.



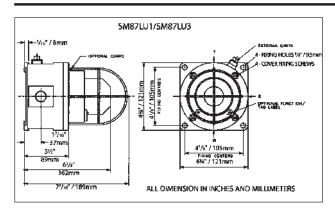
Cl. I, Div. 1 (FB4 & FL4) Cl. I, Div. 2 (FB11, FB12 & FB15) Cl. I, Zone 1

MEDC Series

SM87 LU3	10	Watt Steady In	candes	cent Light—Explosion	proof	
		Certification UL Listed for: Certified Ambient Temperature		SA, ATEX Div. 1, Groups C, D Zone 1, AExd IIB		
A CONTRACTOR OF THE PARTY OF TH	Certified Ar			+131°F +55°C		
	Ingress Pro	Ingress Protection		(& 6 7	7-7/6" 89mm	
	Material	Material				
	Entries	Entries		³ / ₄ " NPT, 20mm, 25mm		
48	Weight	Weight		kg		
	Options	Options		ens color, lens guard, on, voltages 12-48V DC, 4V AC	øl2inm	
Certification	Ordering Code	Cat. #		Standard Pro	duct Configuration	
UL, cUL Listed, Class I, Div. 2, Groups C, D	762311	SM87LU3AUL024RN	N3R3LNR	24V DC, red lens, 2 x 1/2" N	NPT entries, no labels, red finish	
ATEX	46200122	SM87LU3AB024GN	I1T1BNR		ent beacon, 24V DC, green lens, ble entries, painted red enclosure	
UL, cUL Listed, Class I, Div. 1, Groups C, D	46200096	SM87LU3AUL024GI	N3T3BNR		ncandescent bulb, marine grade , red finish	

SM87 LU1	10 Watt Steady F	luorescent Light—Explosion	oroof
	Certification UL Listed for:	cULus, ATEX Class I, Div. 1, Groups C, D Class I, Zone 1, AExd IIB	
16 9	Certified Ambient Temperature	-67°F to +131°F -55°C to +55°C	
	Ingress Protection	NEMA 4X & 6 IP66 & 67	7-7/16" 189mm
	Material	Alloy	
4 (1)	Entries	2 x ½" or ¾" NPT, 20mm, 25mm	
	Weight	4.4lb/2.0kg	
	Options	Body & lens color, lens guard, certification, voltages 12–48V DC, 120V–254V AC	94-3/4" —— 9/2/mm

Certification	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 2, Groups C, D	46200054	SM87LU1AUL024RN4T4BNR	24V DC, red lens, 2 x $^{3}/_{4}$ " NPT entries, no labels, red finish
UL, cUL Listed, Class I, Div. 1, Groups C, D	46200052	SM87LU1AUL024GN4T4BNR	24V DC, green lens, 10W fluorescent bulb, marine grade alloy, red finish
ATEX	46200121	SM87LU1AB024GN1T1BNR	Exd, IIC, T4/T6 fluorescent beacon, 24V DC, green lens, no lens guard, 2 x M20 cable entries, painted red enclosure

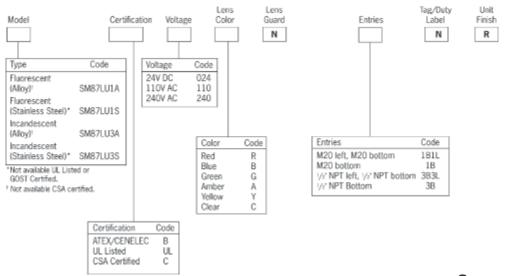


Specificat	tion-SM87LU1/SM87LU3 Units
Models:	SM87 LU1: Fluorescent SM87 LU3: Incandescent
Certification:	UL Listed for USA and Canada: Class I, Div. 1, Groups C, D and Class I, Zone 1. Listing No: E187894. CSA Certified for Class I, Div. 1 & 2, Group D Certificate No. 96406 ATEX approved: Exd IIC T3-T6 (model dependent) Certificate No. 03ATEX0222X
Ingress Protection:	NEMA 4X and 6 IP66 & IP67
Material:	Marine Grade Aluminium Alloy LM25TF with glass lens
Finish:	Epoxy paint finish as standard or to customer's specification
Fluorescent:	10 Watt tube light output 600 Lumens (240V & 254V AC versions) 5 Watt tube max. light output 250 Lumens (DC versions)
Incandescent:	Single incandescent fitted as standard 10 watts. Others may be available, please contact MEDC with your requirements
Weight:	4.4lb/2.0kg approx.
Certified Temperature:	SM87LU1/3 -67°F to +131°F -55°C to +55°C
Voltage:	12, 24, 48V DC, 110V (LU3 only), 220V, 240V, 254V AC 50Hz as standard. 60Hz available if required
Terminals:	SM87: 4 off for up to 14 AWG cable
Entries:	SM87LU1& 3: 2 x ½" or ¾" NPT, 20mm, 25mm
Power Consumption:	LU1- 7 Watts for 12V DC, 24V DC, 48V DC, 220V AC 14 Watts for 240V AC, 15 Watts for 254V AC LU3- Single incandescent fitted as standard 10W. Other options are available—please contact MEDC with

your requirements

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



Steady-On Beacons

Eaton's Crouse-Hinds Hazard • Gard EXSO and EXDSO (Diode Polarized) Series Explosionproof Steady-On Beacons are designed for installation in hazardous locations where a visual signal is required for tough environmental conditions involving corrosives, water, dust and extreme temperature.

The units are UL Listed for Type 3R, 4X and marine installations. The steady-on beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

Typical industrial and commercial applications include food processing plants, refineries, mines, tankers, laboratories, sewage treatment plants, offshore oil rigs, water and filtration plants and chemical plants.

The diode polarized steady-on beacon is used in electrically supervised circuitry for life safety or security applications.

Applications:

- Safety lighting
- Exit or entrance lights
- Obstacle warning
- · Continuous source to communicate
- For identifying the location of safety equipment such as showers or emergency telephones

Typical Industries:

- Chemical plants
- Storage handling
- Dust conveyor systems
- Energy exploration
- Textile mills
- · Flour and feed mills

Features and Benefits:

- Powerful halogen light source for clear visual indication
- Available in six different globe colors—amber, blue, clear, green, magenta and red
- Factory sealed no external seals required
- Quick connect—steady-on beacon fixture threads onto mounting module for easy installation
- Small compact size—ceiling mount is 13¾-inch long
- Available in pendant, wall, stanchion and ceiling mount



Certifications and Compliances:

- Class I, Division 1, Groups C, D
- Class I, Zones 1 & 2, Group IIB
- Class II, Division 1, Groups E, F, G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed (120V AC and 24V DC only)
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP66

Materials and Finishes:

- Body, mounting modules and guard—Copper-free aluminum
- Globe-Heat and impact-resistant glass
- Gaskets—Silicone
- External hardware-Stainless steel
- Internal components—Solid-state electronics in a moistureresistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings:

- 120V AC (EXR) and 24-28V DC (EXDR)
- Operating Current: 0.35 amps at 120V AC (EXSO);
 0.8 amps at 24–28V DC (EXDSO, diode polarized)
- Peak Candlepower: 3328

Hub Size:

- 3/4-inch NPT pendant, ceiling and wall mount
- 1½-inch NPT stanchion mount

Steady-On Beacons

Ordering Information: Step 1 - Order Rotating Beacon Type

Cat. #	Voltage	Lens Color	NEMA Rating					
Explosionproof Steady-On Beacons								
EXSO301A/120	120V AC	Amber	3R, 4X, Marine					
EXSO301B/120	120V AC	Blue	3R, 4X, Marine					
EXSO301C/120	120V AC	Clear	3R, 4X, Marine					
EXSO301G/120	120V AC	Green	3R, 4X, Marine					
EXSO301M/120	120V AC	Magenta	3R, 4X, Marine					
EXSO301R/120	120V AC	Red	3R, 4X, Marine					
Diode Polarized Explo	osionproof Steady-0	On Beacons						
EXDSO301A/24 28	24-28V DC	Amber	3R, 4X, Marine					
EXDSO301B/24 28	24-28V DC	Blue	3R, 4X, Marine					
EXDSO301C/24 28	24-28V DC	Clear	3R, 4X, Marine					
EXDSO301G/24 28	24-28V DC	Green	3R, 4X, Marine					
EXDSO301M/24 28	24-28V DC	Magenta	3R, 4X, Marine					
EXDSO301R/24 28	24-28V DC	Red	3R, 4X, Marine					

Step 2 - Order Mounting Module

Cat. #	Hub Size	Mounting Sty
EVMP2	3/4"	Pendant
EV22 & EV	/87 ³ / ₄ "	Wall
EV22	3/4"	Ceiling
EVMJ4	11/4"	Stanchion

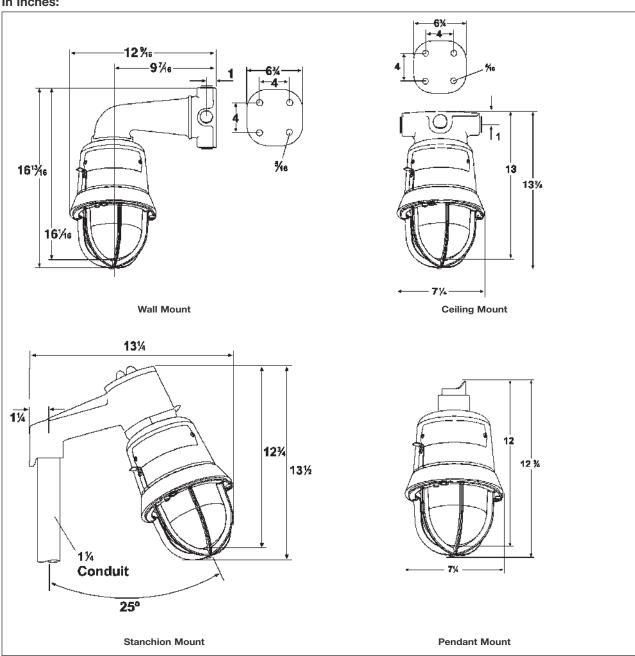
Temperature Performance Data:

Description	Ambient Max. Temp.	Supply Wire	Class I, Div. 1, 2, Groups C, D, Class I, Zone 1, Group IIB	Class II, Class III, Div. 1, Groups E, F, G	Class II, Class III, Div. 2, Groups F, G
EXSO Series Steady-On Beacon Voltage 120V AC	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T5 (100°C)	T4 (135°C)	T4 (135°C)
	65°C	105°C	T5 (100°C)	T4 (135°C)	T4 (135°C)
EXDSO Series Steady-On Beacon - Diode Polarized Voltage 24-28V DC	40°C	75°C	T6 (85°C)	T4A (120°C)	T4A (120°C)
	55°C	90°C	T6 (85°C)	T4 (135°C)	T4 (135°C)
	65°C	105°C	T6 (85°C)	T4 (135°C)	T4 (135°C)

Steady-On Beacons

Dimensions

In Inches:



Net Luminaire Weights:

Description	Weight
Luminaire Housing with Guard	11.0 lbs.
Add mounting modules: Pendant Ceiling Wall Stanchion	1.0 lbs. 1.0 lbs. 4.5 lbs. 2.5 lbs.

Crouse-Hinds

VF "Steady On" Beacon 38

Compact Fluorescent Warning and Visual Indication Light

Cl. I, Zone 2, Group IIC Wet Locations 3, 3R

Cl. I, Div. 2, Groups A, B, C, D Green – Safety Shower Blue – Emergency Telephones Red - Danger Amber – Warning Visual Signal

Applications:

VF series "Steady On" fluorescent beacons are used indoors or

- Where the energy efficiency and long life of compact fluorescent lamps are desired
- For continuous signaling requirements
- Where a continuous "Steady-On" fluorescent light signal is required
- · Where ambient noise makes audible signals difficult to hear
- · As visual signals or warning lights on loading docks; at obstructions, exits or entrances
- For identifying the location of safety equipment such as safety showers or emergency telephones
- · For call signals
- For status indication or area lighting on offshore rigs, mines, refineries etc.
- In locations which are hazardous due to the presence of flammable vapors or gases and where dampness or corrosion are
- To identify a potentially dangerous obstacle
- · As a continuous source to warn or communicate

Typical Applications are:

- Green Identify safety shower locations
- Blue Identify emergency telephones
- Amber Caution signal
- Red Danger signal
- Red & Amber Emergency situations
- Blue & Red Security or malfunctioning equipment
- Green & Clear Equipment end of cycle

Features:

- Extremely energy-efficient, only 18 watt (2-9 watt compact fluorescent lamps)
- · Packs considerable punch for ample visibility even in harsh
- · Compact size and light weight allow adaptation and easy installation in many industrial applications
- Cast copper-free aluminum (less than 0.4 of 1% copper) construction and epoxy powder finish provide excellent resistance to corrosion
- · Variety of mounting arrangements to suit any lighting layout pendant, ceiling, wall bracket, angle stanchion
- · Glass globes are internally fluted and stippled to enhance visibility; exteriors are smooth to shed dust
- · Grounding wire for safety



Certifications and Compliances:

 NEC and CEC: Class I, Division 2, Groups A, B, C, D Class I, Zone 2

• UL Standards:

844

1598 Luminaires

• CSA Standards: C22.2 No. 137

Standard Materials:

- Bodies and guards copper-free aluminum (less than 0.4 of 1%)
- Globes glass

Standard Finishes:

• Copper-free aluminum – powder epoxy finish

Electrical Ratings:

- Input voltage 120 VAC, 60 hertz
- Wattages: 18W (Two 9W lamps)

Ordering Information:

	Cat. # - by Globe Color							
Style	Red	Amber	Green	Blue	Clear			
Pendant	VFA222GRP	VFA222GAP	VFA222GGP	VFA222GBP	VFA222GP			
Wall	VFHBF222GRP	VFHBF222GAP	VFHBF222GGP	VFHBF222GBP	VFHBF222GP			
Ceiling	VFHF222GRP	VFHF222GAP	VFHF222GGP	VFHF222GBP	VFHF222GP			
Stanchion	VFHA422GRP	VFHA422GAP	VFHA422GGP	VFHA422GBP	VFHA422GP			

Weights:

Luminaire Type	Luminaire With Globe & Guard (lbs.)
VFA	5
VFHF	51/4
VFHBF	71/2

Temperature Performance Data:

Style 1 & 2 Lamp	Class I, Div. 2	Max. Ambient	Supply Wire °C	Minimum Operating
9W	ТЗВ	40°C	75°C	-4°C (25°F)

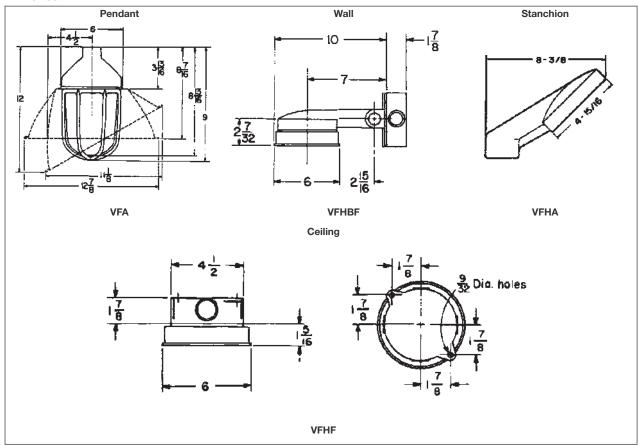
3S

VF "Steady On" Beacon

Compact Fluorescent Warning and Visual Indication Light Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zone 2, Group IIC Wet Locations 3, 3R Green — Safety Shower
Blue — Emergency Telephones
Red — Danger
Amber — Warning
Visual Signal

Dimensions

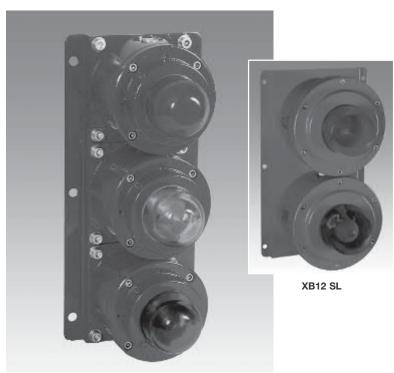
In Inches:



Status Lights 4S

Hazardous

Description	Page No.
Status Lights - MEDC Series	
FB12 SL	see pages 1272-1275
SM87 SL	see pages 1272-1275
XB11 SLUL	see pages 1272-1275
XB12 SL	see pages 1272-1275



SM87 SL

NOTE: Units shown are for representation only. Other variations are available.

The most rugged and reliable status lights for harsh and hazardous applications.

Available as Xenon, incandescent and fluorescent beacons/strobes.

The SM87 SL range is manufactured in marine grade alloy and the XB12 SL in corrosion-free GRP to provide a wide range of status lights to suit your requirements.

All units can be supplied as 1, 2, 3, 4 or 5 stacks.

Applications:

- Process status
 - Messaging
 - Alert or emergency condition indication

Typical Industries:

- Offshore & onshore
- Energy exploration & transmission
- Refining
- Chemical & petrochemical
- Pharmaceutical

Features and Benefits:

- 4-wire monitored connection for supervisory circuits*
- Marine grade alloy or GRP
- Pre-wired to customer's requirements

Certifications and Compliances:

- UL Listed for USA and Canada* Class I, Div. 1 & 2, Groups C, D Class I, Zone 1, AExd IIB T6
- CSA certified*
- ATEX approved
- Xenon, fluorescent, incandescent*
- NEMA 4X & 6. IP66 & 67
- Certified temperature –67°F to +131°F* -55°C to +55°C

*Depending on model.

SM87 SL	Xenon, Inca	andescent & Fluorescent Status Lig	hts-Explosionproof
	Certification UL Listed for:	cULus, CSA, ATEX Class I, Div. 1, Groups C, D Class I, Zone 1, AExd IIB T4	6-II/16° F/Cmm
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C	
. 7	Ingress Protection	NEMA 4X & 6 IP66 & 67	14-49/64"
	Material	Alloy	375mm 9 9 9
6	Entries	Up to 1 x ½" NPT	
A C	Max. No. of Ways	4	
(a)	Options	Body & lens color, certification, voltages 24–48V DC, 110–254V AC	6-7/8" / I75mm DEEP
Cortification	Voltage Ordering Code	Cot # Standard Pro	dust Configuration

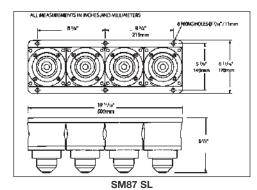
Certification	Voltage	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	26200043	SM87SL3	Explosion protected, three stack, one ½" NPT entry on bottom, no lens guards, xenon strobe with red, green, and clear lens
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	26200055	SM87SL2	Xenon status lamp, two stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	26200056	SM87SL2	Incandescent status lamp, two stack 40 watt beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	26200057	SM87SL2	Fluorescent status lamp, two stack 5 watt beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	110V AC	26200058	SM87SL2	Xenon status lamp, two stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	26200059	SM87SL3	Xenon status lamp, three stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, 1/2" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	24VDC	26200060	SM87SL3	Incandescent status lamp, three stack 40 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	26200061	SM87SL3	Fluorescent status lamp, three stack 5 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, 1/2" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	110V AC	26200062	SM87SL3	Xenon status lamp, three stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	110V AC	26200066	SM87SL3	Incandescent status lamp, three stack 40 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL, cUL Listed, Class I, Div. 1, Groups C, D	220V AC	26200063	SM87SL3	Fluorescent status lamp, three stack 5 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½ NPT entry in the bottom unit for customer connection

XB11 SLUL	Xenon Strobe 8	& Incandescent Status Lights—Haza	rdous Locations
	Certification UL Listed for:	UL, ATEX Class I, Div. 2, Groups C, D Class I, Zones 1 & 2, AExd IIB T4	8-1/16'
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C	
-	Ingress Protection	NEMA 4X & 6 IP66 & 67	14-3/8" 0 11 0
	Material	Corrosion-free GRP	
	Entries	1 x ½" NPT	
	Max. No. of Ways	5	
	Options	Body & lens color, tag & duty labels	7-9/IG" / IS2mm DEEP
Contification	Ordering Code	Cat # Standard Drade	et Configuration

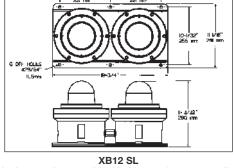
Certification	Ordering Code	Cat. #	Standard Product Configuration
UL Listed, Class I, Div. 2, Groups C, D	42500005	XB11ULSL3	Explosion protected, 3 stack, one ½" NPT entry on bottom, 24V DC, green incandescent on top, yellow xenon flashing in middle, red xenon flashing on bottom, no lens guards, red finish

XB12 SL/FB12 SL	. Xenon Strobe 8	k Incandescent Status Lights—Ha	zardous Locations
100	Certification UL Listed for:	UL, ATEX Class I, Div. 2, Groups C, D Class I, Zones 1 & 2, AExd IIB T4	II-1/16"
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C	
2.5	Ingress Protection	NEMA 4X & 6 IP66 & 67	19-3/4"
	Material	Corrosion-free GRP	° 502mm
	Entries	1 x ½" NPT	
	Max. No. of Ways	5	
	Options	Body & lens color, certification, voltages 24V DC, 110–254V AC	: JI-13/32" / 290mm DEEP
Certification	Ordering Code	Cat. # Standard Pro	duct Configuration

Certification	Ordering Code	Cat. #	Standard Product Configuration
UL Listed, Class I, Div. 2, Groups C, D	42600001	XB12ULSL3	110V AC, explosion protected, three stack , one ½" NPT entries, red xenon flashing on top, amber xenon flashing in middle, clear xenon flashing on bottom; no lens guards, red finish
UL Listed, Class I, Div. 2, Groups C, D	42600007	XB12ULSL2	24V DC xenon status lamp, two stack 21 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, '/2" NPT entry in the bottom unit for customer connection
UL Listed, Class I, Div. 2, Groups C, D	42600008	FB12ULSL2	24V DC incandescent status lamp, two stack 60W beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, '/2" NPT entry in the bottom unit for customer connection
UL Listed, Class I, Div. 2, Groups C, D	42600009	XB12ULSL3	24V DC xenon status lamp, three stack 21 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½" NPT entry in the bottom unit for customer connection
UL Listed, Class I, Div. 2, Groups C, D	42600010	FB12ULSL3	24V DC incandescent status lamp, three stack 60W beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½" NPT entry in the bottom unit for customer connection

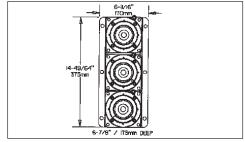


Typical four unit assembly. Various options are available.

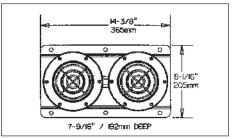


XB12 SL

Typical two unit assembly. Various options are available.



SM87 SL typical three unit assembly



XB11 SL

Specification—SM87SL Unit and XB12SL Unit

	SM87 SL	XB12 SL	
Lamp Types	Xenon 5 joules maximum Fluorescent 10W or 5W Incandescent 40W maximum	Xenon 21 joules Incandescent 60W	
Voltage Frequency	50 Hz as standard. 60 H	z available if required.	
Xenon Voltages	24, 48V DC 110, 120, 240, 254V AC (see SM87 HXB data sheet for further information)	24V DC, 110V, 240V AC (see XB12 data sheet for further information)	
Incandescent Voltages	12, 24, 48V DC, 110, 220, 240, 254V AC (see SM87 LU3 data sheet for further information)	120V AC (see FB12 data sheet for further information)	
Fluorescent Voltages	12, 24, 48V, 220, 240, 254V AC (see SM87 LU1 data sheet for further information)	-	
Lamp Colors	Red, Amber, Yellow, C	Green, Blue or Clear	
Certification	UL Listed for USA and Canada Class I, Div. 1, Groups C, D, Class I, Zone 1, AExd IIB T6. Listing No. E187894. CSA Certified: Class I, Div. 1 & 2, Group D. Cert. No. 96406. ATEX Approved: Exd IIC T4 (incandesent), Exd IIC T6 (Fluorescent & Xenon) Cert. No. Baseefa 03ATEX0222X CENELEC EN50014, EN50018	UL Listed for USA and Canada Class I, Div. 2, Groups C, D, Class I, Zones 1 & 2, AExd IIB T4/T5 Listing No. E187894 ATEX Approved: Exd IIB T4/T5 Cert. No. 99 ATEX 2196 CENELEC EN50014 and EN50018	
Terminals	Will accept up to 14AWG cable	Will accept up to 6 off 10AWG cable	
Wiring	Standard configuration of internal wiring is to common the negative/neutral connections If individually wired lamps are required, please state requirements		
Entries	Up to 3 x ½" or ¾" NPT 1 x ½" NPT		
Enclosure	LM 25TF Marine Grade Alloy GRP		
Lens	Glas	SS S	
Finish	Epoxy paint as standard or to customer's specification	Natural black or epoxy paint to customer's specification	
Ingress Protection	NEMA 4X and	6, IP66 & 67	
Ambient Temp.	-13°F to 131°F (-25°C to +55°C) - Class I, Div 1 -67°F to +131°F (-55°C to +55°C) - Class I, Zone 1	-67°F to +158°F (-55°C to +70°C)	

NOTE: XB11 SLUL also available.

Hazardous

Description	Page No.
Speakers and Tone Generators - MEDC Series	
DB1	see pages 1278-1280
DB3	see pages 1278-1281
DB4	see pages 1282-1285
DB5	see pages 1282-1286
DB12	see pages 1283-1287
DB15	see pages 1283-1288
DB16 UL	see pages 1284-1289
Speakers and Tone Generators - Flex•Tone Series	
ETH640, ETH840	see page 1292
ETH645, ETH845	see page 1291
ETH655, ETH855	see page 1290
Signaling Horns and Bells	
ESR	see pages 1296-1297
ETH	see page 1293
W2H	see page 1294
WH	see page 1295

5S

Speakers & Tone Generators

Up to 30 Watts

Loudspeakers and tone generators provide high decibel communication for messaging, alert and evacuation in harsh and hazardous locations.

- Metallic and non-metallic housings
- Explosionproof and Class I, Division 2 horns and speakers
- · Mounting brackets that allow a full 180° swivel
- Products designed for both conduit wiring and/or cable connection (NPT or metric entries available)
- · Selectable tones

This range of loudspeakers, intended for use in potentially explosive gas and dust atmospheres, has a power rating of up to 30 Watts and is suitable for use in the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

The flamepaths, flare and body, are manufactured from a UV stable glass reinforced polyester. Stainless steel screws and mounting stirrup are incorporated to ensure a corrosion-free product.

Applications:

- Plant-wide alarm notificiaton
- Audible process alarms

Typical Industries:

- Refineries
- Chemical plants
- · Oil and gas exploration
- Marine terminals for transportation & storage



DB16

Certifications and Compliances:

UL Listed for USA and Canada

Hazardous locations:

Class I, Div. 2, Groups A, B, C, D*

Class I, Zone 1, AExde IIB/IIC T3/T4*

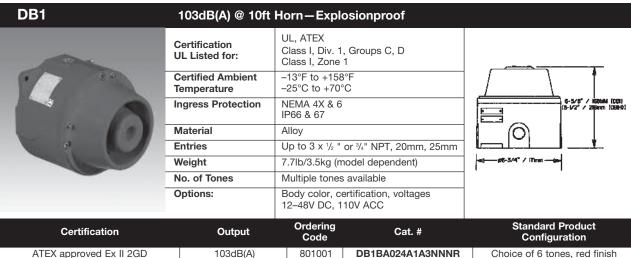
Ordinary locations: Signalling Speaker

- ATEX approved
- NEMA 4X & 6, IP66 and IP67
- Certified temperature:
 - -67°F to +104°F
 - -50°C to +40°C

Features and Benefits:

- GRP corrosion-free flamepath
- Up to 112dBA at 30 Watts at 10 feet*
- Power tappings via integral transformer
- Ratcheted swivel mounting stirrup
- · Stainless steel fixtures
- 100V line or 8 ohm versions available

*Model dependent.



Certification	Output	Ordering Code	Cat. #	Standard Product Configuration
ATEX approved Ex II 2GD	103dB(A)	801001	DB1BA024A1A3NNNR	Choice of 6 tones, red finish
UL Listed, Class I, Div. 2, Groups C, D UL Listed, Class I, Div. 2, Groups C, D	, , ,	869111 869115	DB1PULA024D1D2NNNR DB1HPULA024D1D2NNNR	Two-stage alarms, with 26 tones, 24V DC, alloy, red body color, no tag or duty labels, 2 x ³ / ₄ " NPT entries
UL Listed, Class I, Div. 2, Groups C, D	Up to 96dB(A) @ 10ft	17300108	DB1PULA110C1C3NNNR	Sounder, 110V AC, 2 x ½" NPT entries, red painted enclosure

DB3	108dB(A) @ 10ft Horn—Hazardous Locations						
	Certification UL Listed for:	cULus, ATEX Class I, Div. 2, Groups A, B, C, D Class I, Zones 1 & 2, AExd IIC T4					
	Certified Ambient Temperature	-67°F to +158°F -55°C to +70°C	-3				
	Ingress Protection	NEMA 4X & 6 IP66 & 67	\$4-5/8"				
	Material	Corrosion-free GRP	\$4-5/8"				
	Entries	Up to 2 x 1/2" NPT, 20mm					
	Weight	13.2lb/6.0kg					
	No. of Tones	27 + 5 Programmable					
	Options:	Body color, certification, voltages 12–48V DC, 110V–254V AC					
		And soften	Otan dand Burdent				

Certification	Body Color	Voltage	Type*	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	Red	12-48V DC	Single Stage	869131	DB3UL048N2CNRZ	27 tones, no tag or duty
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	Red	12-48V DC	Two Stage	869132	DB3PUL048N2CNRZ	labels, 108 dB(A) output NEMA 4X & 6, 2 x ½" NPT entries with
UL, cUL Listed, Class I, Div. 2, Groups A, B, C, D	Red	110V AC	Single Stage	869135	DB3UL110N2CNRZ	certified plug
ATEX Ex II 2GD	Natural Black	12-48V DC	Two Stage	803121	DB3PD048N2BNNZ	
ATEX Ex II 2GD	Natural Black	240V AC	Single Stage	803122	DB3D240N2BNNZ	27 tones, no tag or duty
ATEX Ex II 2GD	Red	12-48V DC	Two Stage	803123	DB3PD048N2CNRZ	labels, 2 x M20 entries with one certified plug
ATEX Ex II 2GD	Red	240V AC	Single Stage	803124	DB3D240N2BNRZ	fitted
ATEX Ex II 2GD	Red	12-48V DC	Single Stage	803125	DB3D048N2CNRZ	

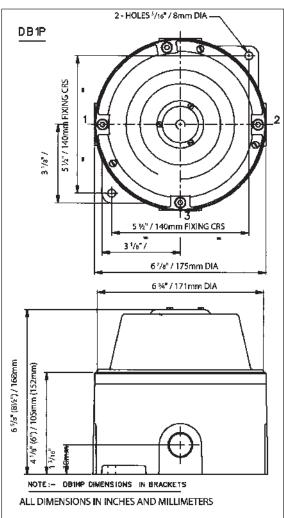
Single Stage

4 wired diode monitored connection—on board diode allows unit to be operated in supervisory mode when monitoring line in reverse polarity.

Switchable unit available in DC versions only either by:

(i) Reversing the polarity of the supply, or,

(ii) By a 3 wire common +ve system, switching between the -ve lines.



Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the

Specification—DB1 Unit

-	
Certification:	UL Listed for Class I, Div. 1, Groups C, D and Class I, Zone 1 UL Listing No. E187688 ATEX Approved: Exd, IIB T3 Cert. No. Baseefa 02ATEX0207 for DB1(P) Cert. No. Baseefa 02ATEX0209 for DB1H(P)
Material:	LM25 corrosion resistant alloy with stainless steel cover screws ABS flare
Finish:	Epoxy paint finish as standard or to customer's specification
Max. Sound Levels:	DB1P=93±3dB(A) (86±3dB(A) for 12V DB1) DB1HP=100 ± 3dB(A) @ 10 feet Note: Sound level is dependent upon the tone selection.
Weight:	DB1P 7.7lb/3.5kg approx. DB1HP. 12.3lb/5.6kg approx.
Certified Temperature:	−13°F to +158°F −25°C to +70°C
Ingress Protection:	NEMA 4X, IP66
Tone Selection:	27 user selectable tones

Tone	Tone Frequency	Tone	Tone Frequency
1	Alt Tones 800/970Hz at 1/4 sec.	15	554 Hz for 0.1S/440 Hz for 0.1S
2	Sweeping 800/970Hz at 7 Hz	16	Int 660 Hz 150 mS on 150 mS off
3	Sweeping 800/970Hz at 1 Hz	17	Int 660 Hz 1.8 sec. on 1.8 sec. off
4	Continuous at 2850 Hz	18	Int 660 Hz 6.5 sec. on 13 sec. off
5	Sweeping 2400-2850 Hz at 7 Hz	19	Continuous 660 Hz
6	Sweeping 2400-2850 Hz at 1 Hz	20	Alt 554/440 Hz at 1 Hz
7	Slow Whoop	21	Int 660 Hz at 1/8 Hz
8	Sweep 1200-500 Hz at 1 Hz	22	Int 2850 Hz 150 mS on 100 mS off
9	Alt Tones 2400/2850Hz at 2 Hz	23	Sweep 800-970 Hz at 50 Hz
10	Int Tones of 970 Hz at 1 Hz	24	Sweep 2400-2850 Hz at 50 Hz
11	Alt Tones 800/970Hz at 1/8 Hz	25	3x970 Hz pulses 0.5 off, 1.5 off
12	Int Tone at 2850 Hz at 1 Hz	26	3x2850z pulses 0.5 on/0.5 off, 1.5 off
13	970 Hz at 1/4 sec. on 1 sec. off	27	Int 3100 Hz 0.3 sec. on 0.7 sec. off
14	Continuous at 970 Hz		

Single Stage

4 wired diode monitored connection—on board diode allows unit to be operated in supervisory mode when monitoring line in reverse polarity.

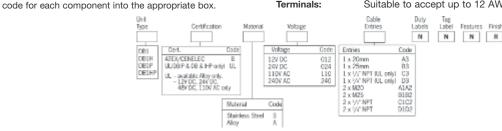
Two Stage

Switchable unit available in DC versions only either by:

- (i) Reversing the polarity of the supply, or,
- (ii) By a 3 wire common +ve system, switching between the -ve lines.

Current Consumption:	Voltage	DB1P	DB1HP
	12V	125mA	900mA
	24V	250mA	700mA
	48V	250mA	_
	110V	60mA	200mA

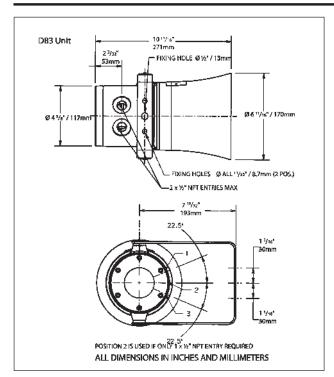
Labels:	Duty and tag labels optional
Entries:	Up to 3 x ½" or ¾" NPT
Terminals:	Suitable to accept up to 12 AWG conductor size



5S

Up to 30 Watts

Speakers & Tone Generators

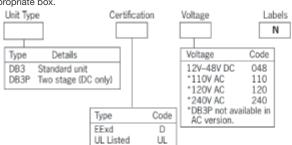


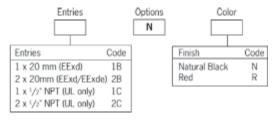
Terminals:	4 x 14 AWG (AC), 6 x 14 AWG (DC)			
Mounting:	Stainless steel bracket with rachet facility			
Labels:	Duty and tag labels optional			
Cable Entries:	UP TO 2 × 1/2" NPT			
Tone Selection:	27 user selectable tones available			
Horn/Strobe Unit:	The DB3 may be combined with an MEDC strobe to create a combined audio/visual alarm. Contact MEDC for price and specification.			
Two Stage Unit: DB3P	Switchable between any two tones by either: (i) Reversing the polarity of the supply, or (ii) by a 3 wire common +ve system, switching between the two –ve lines. Note: Two stage unit available in <u>DC</u> versions only.			
3 & 4 Tone Unit:	Remote 3 & 4 tone unit available—contact sales office for details.			

Specificatio	n-DB3	3 Unit			
Certification:	UL Listed for USA and Canada - Hazardous locations: Class I, Div. 2, Groups A, B, C, D Class I, Zones 1 & 2, AExd IIC T4 UL Listing No. E203310 - Ordinary locations: Audible Signal Device UL Listing No. S8116 ATEX approved: CENELEC EN50014, 18, 19 Cert. No. BAS00ATEX2097X, Exd IIC Cort. No. BAS00ATEX2098X, Exde IIC Zones 1 & 2				
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester Swivel bracket and captive cover screws in stainless steel				
Finish:	Body and horn, natural black or epoxy paint coated to client's color requirements				
Sound Output:	DB3 105 ±3dB(A) Typical at 10 feet (tone dependent)				
Volume Control:	*Nominal Output (dBa) 83 95 98 101 102 104 105 *Output measontinuous.	Input Current (mA) 50 100 150 200 250 300 350 sured with 24V input voltage. Tone set to 970Hz			
Weight:	13.2lb/6.0l	kg approx.			
Certified Temperature:	-67°F to +158°F -55°C to +70°C				
Ingress Protection:	NEMA 4X & 6, IP66 & 67				
Voltage:	Up to 48V DC Up to 254V AC				
Current Consumption:	V 12V DC 24V DC 48V DC 110V AC 120V AC 220V AC 230V AC	760mA 380mA 190mA 135mA 124mA 68mA 65mA			

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

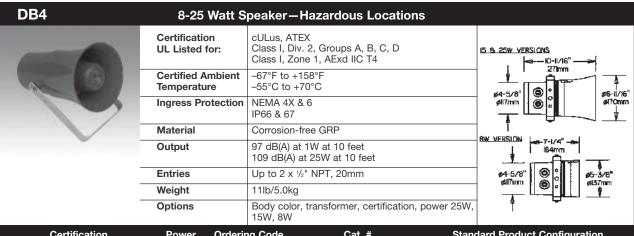




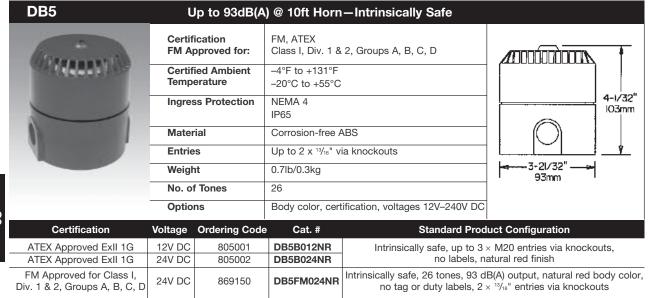
62mA

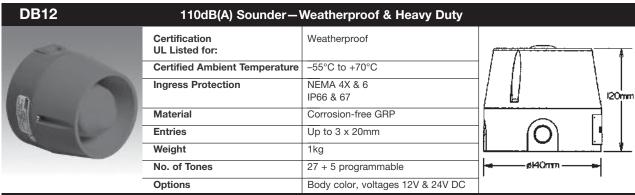
240V AC

254V AC

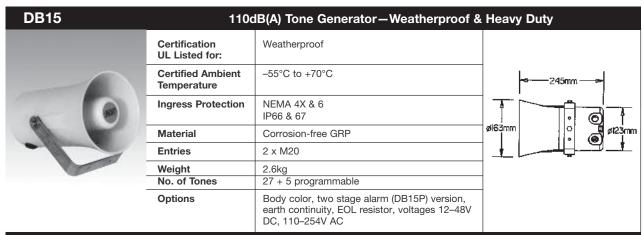


Certification	Power	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed Class I, Div. 2, Groups A, B, C, D	25W	869142	DB425ULX(100)N2CNR	100V line transformer, no labels, 2 x ½" NPT entries, red finish
UL, cUL Listed Class I, Div. 2, Groups A, B, C, D	25W	869144	DB425ULX(70)N2CNR	70V line transformer, no labels, 2 x ½" NPT entries, red finish
ATEX Approved ExII 1G	15W	804215	DB415DXN2BNZ	100V line transformer, no labels,
ATEX Approved ExII 1G	25W	804225	DB425DXN2BNZ	2 x M20, one certified plug, flameproof enclosure, natural black finish



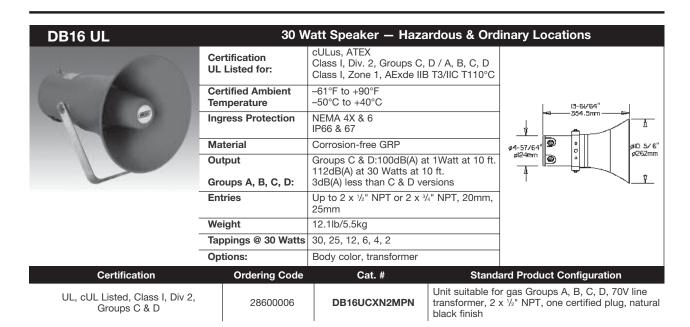


(Certification	Voltage	Туре	Ordering Code	Cat. #	Standard Product Configuration
С	E Certification	115/230V AC	Single Stage	808003	DB12115NN	Weatherproof, dust-tight, no labels, choice of 27 tones, natural red finish, 3 x M20 knockouts
С	E Certification	24V DC	Two Stage	869155	DB12P024NN	Weatherproof, choice of 27 tones, natural red finish, 3 x M20 knockouts



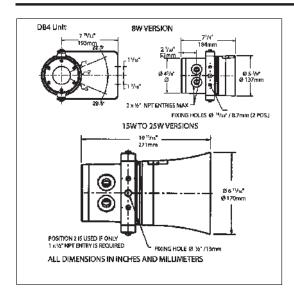
Certification	Voltage	Туре	Ordering Code	Cat. #	Standard Product Configuration
CE Certification	12–48V DC	Two Stage	808110	DB15P048NN	Weatherproof, dust-tight, no labels, choice of 27 tones, painted gray finish
CE Certification	12–48V DC	Two Stage	808115	DB15P048NR	Weatherproof, dust-tight, no labels, choice of 27 tones, painted red finish
CE Certification	240V AC	Single Stage	808120	DB15240NN	Weatherproof, dust-tight, choice of 27 tones, natural gray finish
CE Certification	240V AC	Single Stage	808125	DB15240NR	Weatherproof, dust-tight, choice of 27 tones, painted red finish

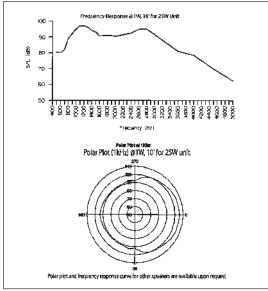
G



Speakers & Tone Generators

Up to 30 Watts





Rated Power:	8, 15 or 25 watts RMS continuous (at 77°F) UL Listed for USA and Canada - Class I, Div. 2, Groups A, B, C, D - Class I, Zone 1, AExd IIC T4 UL Listing No. E203310 ATEX approved: EN50014, 18, 19 Cert. No. BAS00ATEX2097X, Exd IIC T4/T5 Cert. No. BAS00ATEX2098X, ExDC IIC T4/T5 Zones 1 and 2; not for use in atmospheres containing carbon disulphide		
Certification:			
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester Swivel bracket in stainless steel Captive cover screws in stainless steel		
Finish:	Body and horn, natural black or epoxy paint coated to client's color requirements		
Output:	97 dB(A) at 1 watt at 10 feet 109 dB(A) at 25 watts at 10 feet Measured in accordance with IEC 268		
Weight:	11lb/5.0kg approx. dependent on model		
Certified Temperature:	−67°F to +158°F −55°C to +70°C		
Ingress Protection:	NEMA 4X and 6, IP66 & 67		
Frequency Range:	400Hz to 8kHz		

Transformer:

Used to vary the rated power by selecting different tappings (see table below).



Voice Coil Impedance: 8 ohms

Transformer	Power			
Tappings	25W	15W	8W	
1:2	25.0	15.0	8.0	
2:3	12.5	7.5	4.0	
3:4	6.0	5.0	2.0	
1:3	4.0	4.0	1.5	
2:4	2.0	2.0	0.7	
1:4	1.0	0.8	0.4	

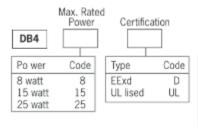
Transformer Options:

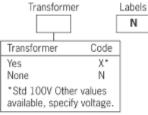
- i) Loop in/Loop out:
- ii) Optional Tapping:
- (4 x 2) terminal tap change (8 terminals). 4 terminal tap change with 2 terminals (5 & 6) directly connected to driver (8 ohms).

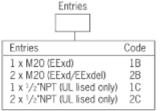
Other tappings & driver impedances available on request.

Terminals:	8 x 14AWG Other terminal arrangements available on request
Mounting:	Bracket with ratchet facility
Labels:	Duty and tag labels optional
Cable Entries:	Up to 2 x 1/2" NPT

Ordering Requirements

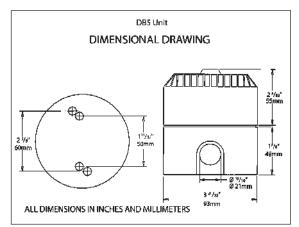






Colo	r T
Color	Code
Natural Black	N
Red	R

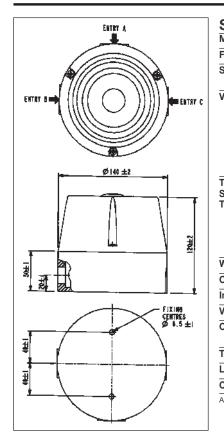
To specify certified plug, suffix appropriate code with 'P'. e.g. 2BP is 2 x M20 entries with one certified plug.



Specification—DB5 Unit			
Certification:	FM approved for Class I, Div. 1,Groups A, B, C, D, J.I. 3001835 CSA certified to C22.2 Nos. 0, 0.4, 0.5, 25, 30, 205, Class I, Groups A, B, D, Cert. No. 79122 ATEX approved, EN50014 and EN50020 & EN50284 Exia IICT4. 12/24V version Cert. No. BAS00ATEX 1259 (unit) and 01E2024 (system) HSE(M) to EN50014, EN50020 and EN50303 Exia 1 Cert. No. MECS01ATEX4260 (unit) and 94Y7095 (system)		
Material:	A.B.S. (Acrylonitrile Butadiene Styrene)		
Finish: Available in red as standard			
Certified Temperature:	-4°F to +131°F -20°C to +55°C		
Weight:	0.7lb/0.3kg		
Entries:	Up to 1 x 13/16" on each side via knockouts		
Sound Output: 90± 3dB(A) at 10 feet for 12V and 24V version Typical max value only—variable with tone			

Current Consumption:

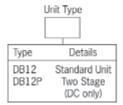
24V model—14 mA max. nominal 12V model—12 mA max. nominal



Material:	UV stable glass reinforced polyester. Retained stainless steel cover screws		
Finish:	Self colored red as standard or epoxy coated to customer's specification		
Sound Output:	107± 3dB(A) at 1 meter Typical value only-variable with tone		
Volume Control:	Integral volume control		
	*Nominal Output (dBa) Input Current (mA) 92 100 70 104 80 109 *Output measured with 24V input voltage. Tone set to 2850Hz continuous.		
Tone Selection: Single Stage DB12: Two stage Unit DB12P:	27 user selectable tones Switchable between any two tones by either: (i) Reversing the polarity of the supply, or (ii) by a 3 wire common +ve system, switching between the two -ve lines. Note: Two stage unit available in DC versions only.		
Weight:	1.0 kg. Dc, 1.2kg AC		
Operating Temperature:	-55°C to +70°C		
Ingress Protection:	IP66 & IP67		
Voltage:	DC: 12V, 24V AC: 115/230V		
Current Consumption:	24V operation 55mA-100mA 115V operation 85mA-140mA 12V operation 55mA-90mA 230V operation 45mA-60mA		
Terminals:	6 x 2.5mm²		
Labels:	Duty and tag labels available		
Cable Entries:	Up to 3 x M20 via knockouts		

Ordering Requirements

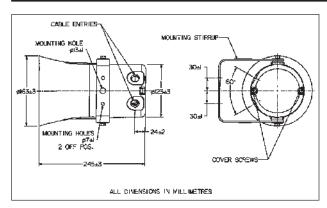
The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.



Voltage	
Voltage	Code
Voltage 12V DC	012
24V DC	024
115/230V AC	115

Labels	
N	





Tone Selection:

DB15:

DB15P (Two stage unit):

27 user selectable tones available. Additional 5 tones may be programmed. Switchable between any two of the 27 tones by either:

(i) Reversing the polarity of the supply, or (ii) by a 3 wire common +ve system,

switching between the two -ve lines. Note: Two stage unit available in <u>DC</u> versions (DB15P) only.

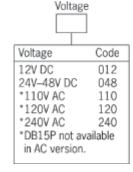
AFNOR NF S 32 001 compliant version available—contact sales office.

Specification-	−DB15 U	Jnit		
Material:	Body & horn in UV stable, glass reinforced polyester Swivel bracket in stainless steel Cover screws in stainless steel			
Finish:	Body and horn, natural gray to RAL 7035 or epoxy paint coated to client's color requirements			
Sound Output:	DB15 117dE	B(A) maxin	num	
Volume Control:	Integral volume control			
	*Nominal (dBa		Input Current (mA)	
	10	0	150	
	105		250	
	108		350	
	110		450	
	112		550	
	*Output measured with 24V input voltage. Tone set to 970Hz continuous.			
Weight:	2.6kg appro	x. depend	lent on model	
Temperature Range:	-55°C to +7	0°C		
Ingress Protection:	IP66 and IP6	67		
Voltage:	Up to 48V D	C Up to 2	254V AC	
Current	V			
Consumption:	12V DC	900mA		
	24V DC	600mA		
	48V DC	280mA		
	110V AC	150mA		
	120V AC	175mA		
	220V AC	93mA		
	240V AC	86mA		
	254V AC	80mA		

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.







Terminals:

Mounting: Labels:

Cable Entries:

Earth Continuity:



4 x 2.5mm² (AC), 6 x 2.5mm² (DC)

Duty and tag labels optional

Stainless steel bracket with ratchet facility

Available

2 x M20 ISO

DB16 Unit

Specification - DB16 Unit

opcomoditori	ation BB10 Oilit		
Rated Power:	30 Watts RMS continuous (at 77°F/25°C)		
Certification:	UL Listed for USA and Canada - Hazardous locations: Class I, Div. 2, Groups C, D, Class I, Zone 1, AExde IIB T3 Class I, Div. 2, Groups A, B, C, D, Class I, Zone 1, AExde IIC T110°C UL Listing No. E203310 - Ordinary locations: Signalling Speaker; UL Listing No. 58847 CENELEC EN50014, 18, 19 IIB Version: Cert. No. Baseefa04ATEX0166X ATEX Ex II 2G Exde IIB T3 (Tamb50°C to +40°C) IIC Version: Cert. No. Baseefa04ATEX0167X ATEX Ex II 2GD Exde IIC T110°C (Tamb50°C to +40°C) Zones 1 and 2		
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester Mounting stirrup and fixtures in stainless steel		
Finish:	All natural or body and horn can be painted to client's requirements		
Output:	Groups C, D Version: Maximum output at 1W at 10 feet is 100dBA Maximum output at 30W at 10 feet is 112dBA Groups A, B, C, D Version: Maximum output at 1W at 10 feet is 97dBA Maximum output at 30W at 10 feet is 109dBA		
Weight:	12lb/5.5kg approx.		

ALL DIMENSIONS IN THE LIMIT HOUSE AND STRAP STRA

Certified Temperature: 67°F to +104°F (-50°C to +40°C)

Ingress Protection: NEMA 4X & 6, IP66 & IP67

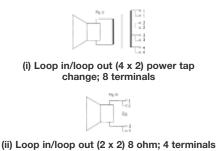
Voltage: 370Hz to 8kHz

Voice Coil Impedance: 8 ohms

Transformer: Used by combining the rated power tappings below

Transformer Tapping Options:

Transformer Tappings	Power (W)
1:2	30
2:3	25
3:4	12
1:3	6
2.4	4
1.4	2



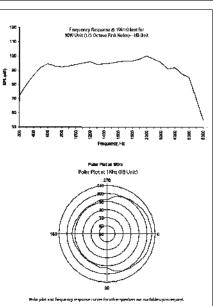
Terminals: 8 x 2.5mm²

Earth Continuity: Available via optional earthing stud or by internal earth plate

Mounting: Via stirrup with ratchet facility

Labels: Optional stainless steel tag and duty labels

Cable Entries: Up to 2 x 1/2" NPT or 2 x 3/4" NPT into termination chamber, 20mm, 25mm

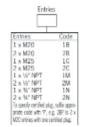


Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.









5S

5S

ETH Flex•Tone™ Series Signaling Devices

Electronic Signals

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1 & 2, Groups E, F, G Cl. III

UL and cUL 464 and 1203 Listed

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Eaton's Crouse-Hinds **Flex•Tone Series Electronic Signals** are explosionproof, heavy duty, tone-selectable signaling devices capable of producing volume-controlled, high decibel tones. Certified for use in Class I, Division 1, Groups B, C, and D applications, the Flex•Tone Series is ideal for signaling warning or emergency conditions.

The Flex•Tone ETH855 accepts up to two contact closures and delivers two audible output signals selected from 55 available tones. The two tones are selected by setting miniature switches within the unit. One of the tones can be assigned a priority status to override the other tone.

The **Flex•Tone ETHD855** is diode polarized for applications requiring electrical supervision of signaling circuit field wiring. The signal delivers one audible output signal selected from the 55 tones available.

Applications:

 For use where a high decibel sound is required for alert or evacuation in hazardous locations.

Features and Benefits:

- Heavy duty zinc cast construction.
- 55 tone capacity no additional tone modules needed.
- Internal volume control with internal potentiometer.
- · Corrosion-resistant heat-flowed epoxy finish.
- Supplied with factory sealed ½" threaded fitting for quick installation
- Speaker can swivel 180° vertically or horizontally depending on orientation of mounting bracket.
- Mounts onto any surface using only three bolts.
- 30" numbered wire leads.



Explosionproof Electronic Signal Stand-Alone Unit

Certifications and Compliances:

- Class I, Division 1, Groups B, C, D
- · Class II, Division 1, Groups E, F, G
- Class III
- UL and cUL 464 and 1203 Listed

Materials and Finishes:

- Body Heavy duty zinc cast construction
- External hardware Stainless steel

Ratings:

- 24VDC, 36VDC, 125VDC, 250VDC, 24VAC, 120VAC and 240VAC (ETH)
- 20 31VDC (ETHD)

Output Sound Pressure:

• 109 decibel (dBA) output

Ordering Information:

Cat. #	Voltage	Signal OFF Standby Current (Amps)	Signal ON Operating Current (Amps)
Explosionproof, Tv	vo Output		
ETH855/24	24VDC	0.061	0.250
ETH855/36	36VDC	0.077	0.380
ETH655/24	24VAC, 50 / 60Hz	0.250	0.950
ETH655/120	120VAC	0.088	0.260
ETH655/240	240VAC	0.091	0.190
ETH855/125	125VDC	0.031	0.130
ETH855/250	250VDC	0.019	0.070

Diode Polarized, Explosionproof, Single Output For Fire Alarm Applications

Meets min. 75 dBA for fire alarm indication

ETHD855/24 20 – 31VDC 0.061 0.950

55

5S

ETH Flex•Tone™ Series Signaling Devices

Remote Speaker / Amplifier

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1 & 2, Groups E, F, G Cl. III UL and cUL 464 and 1203 Listed Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Eaton's Crouse-Hinds Flex•Tone Series Explosionproof Remote Speaker/Amplifier is designed for remote mounting in Division 1 areas where simultaneous high decibel signaling is required.

Used in connection with the Panel Control Signaling Generator, the Flex*Tone ETH845 operates directly from local power sources, allowing remote speaker/amplifiers of different voltages to be connected within the same system. Available in both AC and DC voltages, the Flex*Tone can be mixed and matched throughout an application using the available line power.

ETH845 Series Remote Speaker/Amplifiers must be used with Eaton's Crouse-Hinds Flex•Tone Panel Control Signal Generator on next page.

Applications:

 For use where simultaneous signaling of a high decibel sound is required for alert or evacuation in hazardous locations.

Features and Benefits:

- Heavy duty zinc cast construction.
- Individual volume control.
- · Corrosion-resistant heat-flowed epoxy finish.
- Supplied with factory sealed 1/2" threaded fitting for quick installation.
- Speaker can swivel 180° vertically or horizontally depending on orientation of mounting bracket.
- Mounts onto any surface using only three bolts.
- 30" numbered wire leads.



Explosionproof Remote Speaker/Amplifier

Certifications and Compliances:

- Class I, Division 1, Groups B, C, D
- Class II, Division 1, Groups E, F, G
- Class III
- UL and cUL 464 and 1203 Listed

Materials and Finishes:

- Body Heavy duty zinc cast construction
- External hardware Stainless steel

Ratings:

• 120VAC, 240VAC, 125VDC and 250VDC

Output Sound Pressure:

• 109 decibel (dBA) output

Ordering Information:

Cat. #	Voltage	Signal OFF Standby Current (Amps)	Signal ON Operating Current (Amps)
Explosionproof Re	mote Speaker/Amp		
ETH845/24	24VDC	0.061	0.250
ETH645/24	24VAC, 50/60Hz	0.250	0.950
ETH645/120	120VAC	0.088	0.260
ETH645/240	240VAC	0.091	0.190
ETH845/125	125VDC	0.031	0.130
ETH845/250	250VDC	0.091	0.070

ETH845 Series Remote Speaker/Amplifiers must be used with Eaton's Crouse-Hinds Flex•Tone Panel Control Signal Generator on next page.

 ${\sf ETH845\ Series\ Remote\ Speaker/Amplifiers\ accept\ a\ 10VAC\ audio\ signal\ from\ Flex} \bullet {\sf Tone\ Panel\ Control\ Signal\ Generator}.$

ETH Flex•Tone™ Series Signaling Devices

Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 2, Groups F, G Cl. III UL 464 and 1604 Listed NEMA 3R, IP44

Control Signal Generator

Eaton's Crouse-Hinds Flex•Tone Series Panel Control Signal Generator controls and initiates a synchronous signaling sound from all Flex•Tone 3 Remote Speaker/Amps installed in a system. The Panel Control Signal Generator is mounted in a Division 2 area, while controlling the Flex•Tone 3 Speaker/Amps that are remotely mounted in Division 1 areas.

The Panel Control Signal Generator produces 27 sounds. Four tones may be activated from field-wired, normally open contacts, or a 24VDC or 120VAC external voltage source such as an output from a PLC.

Applications:

- Hazardous area applications calling for high decibel output with simultaneous signal delivery over all speakers installed in a system
- Emergency warning systems, plant evacuation alarms, security intrusion alarms, process monitoring, shift start and dismissal horns, and paging signals

Features and Benefits:

- 27 tone capability no additional tone modules needed
- Centralized programmable tone selection
- PLC compatible
- System-wide priority tone
- 24 VDC battery back-up terminals
- · Short circuit protected



Certifications and Compliances:

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups F, G
- Class III
- UL 464 and 1604 Listed
- cUL C22.2 No. 205
- CE Marked CENELEC LV and EMC Directives
- NEMA 3R, IP44

Materials and Finishes:

• Zinc-cast construction with an epoxy powder coat finish

Ratings:

• See table below

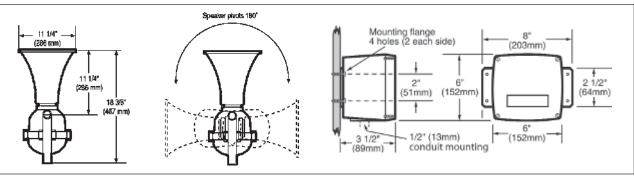
Ordering Information:

		Input Card	Signal OFF	Signal ON
Cat. #	Voltage	Activation Voltage	Standby Current (Amps)	Operating Current (Amps)
Panel Control Signal Ger	nerator			
ETH840/24E74	24VDC	24VDC	0.10	0.74
ETH640/24E13	24VAC, 50/60Hz	24VDC	0.10	1.30
ETH640/120E36	120VAC, 50/60Hz	24VDC	0.10	0.36
ETH640/120M38	120VAC, 50/60Hz	120VAC	0.10	0.38
ETH640/120E32	120VAC, 50/60Hz	24VDC	0.10	0.32
ETH640/240E20	240VAC, 50/60Hz	24VDC	0.10	0.20
ETH840/125E21	125VDC	24VDC	0.10	0.21
ETH840/250E10	250VDC	24VDC	0.02	0.10
ETH640/120M31	120VAC, 50/60Hz	120VAC	0.10	0.31
ETH640/240M20	240VAC, 50/60Hz	120VAC	0.10	0.20
ETH840/125M20	125VDC	120VAC	0.10	0.20
ETH840/250M10	250VDC	120VAC	0.02	0.10
ETH640/120R31	120VAC, 50/60Hz	RS485	0.10	0.31
ETH640/240R20	240VAC, 50/60Hz	RS485	0.10	0.20
ETH840/125R20	125VDC	RS485	0.10	0.20
ETH840/250R10	250VDC	RS485	0.02	0.10

Flex*Tone Panel Control Signal Generator must be used with Eaton's Crouse-Hinds ETH845 Remote Speaker/Amps on previous page.

Dimensions

In Inches:



Crouse-Hinds

Cl. I, Div. 1 & 2, Groups B†, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

NEMA 7B†CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Factory Sealed

Applications:

ETH horn signals are used:

- For call signals, alarms, and various other signalling applications
- In specific hazardous atmospheres as found in chemical plants, oil and gas refineries, bulk loading stations, paint and varnish manufacturing plants, grain processing industries and grain elevators, as well as in certain metal, coal, combustible fiber processing or handling areas
- In conduit systems and mounted on a flat surface with the projectors aimed in the desired direction

Features:

- No external conduit seal is required.
- The AC signals do not have arcing contacts.
- The DC horns have factory sealed wire leads in the interconnecting nipple and hub.
- The body cover joint of AC horn signals is of serrated construction, machined to close tolerance to ensure flametightness and secured by a clamping ring. The DC unit has a ground joint design.

Certifications and Compliances:

NEC:

Class I, Division 1 & 2, Groups B†, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

UL Standard: 464, 1203CSA Standard: C22.2 No. 30

Standard Materials:

Copper-free aluminum

Standard Finishes:

Natural

Size Ranges:

• Hub - 1/2" or 3/4" size

Sound Levels:

• See Ordering Information table for individual ratings

Electrical Rating Ranges:

Nominal voltage – 24, 115, 230 VAC 24 VDC



ETH grill type horn signal

Table 1
Operating Current in Amperes at the Nominal Voltage for Horn and Siren Signals

Horn Signal

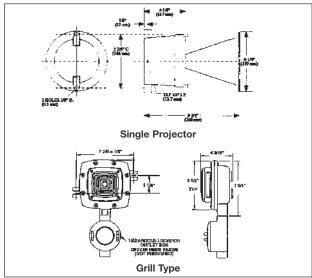
	Amperes Single Projector	Grill Type	
Nom. Volts	50 to 60 hertz AC ETH2702, ETH2703	50 to 60 hertz AC ETH2313, ETH2316, ETH2312	DC ETH2416
24 115 230	45 .2	0.625 0.13 0.065	0.16

Ordering Information:

Supply	Nom. Volts*	Nom. Watts	Minimum audibility rating (dB) at 10':	Hub Size	Cat. #
Single Pro	jector Ho	rn Signal			
50 to 60	115	33	105 dB	1/2	ETH2703
hertz AC	230	33	105 dB	1/2	ETH2702
Grill Type	Horn Sigi	nals			
50.400	24		100 dB	3/4	ETH2316
50 to 60	115	49	100 dB	3/4	ETH2313
hertz AC	230		100 dB	3/4	ETH2312
DC	24	30	100 dB	3/4	ETH2416

Dimensions

In Inches:



Dimensions are approximate, not for construction purposes.

†Grill type horns are certified for Group B.
* See Table 1 for more complete ratings

5S

Cl. I, Div. 2, Groups A, B, D Cl. II, Div. 2, Group G NEMA 3, 7ABCD (Div. 2), 9G (Div. 2) Raintight

Dust-tight Wet Locations

Applications:

W2H series signaling devices are used:

- As independent audible signal or warning devices
- In Class I, Division 2, Groups A, B, C, D hazardous areas where flammable vapors or gases may be present due to accidental or abnormal operation
- In Class II, Division 2, Group G hazardous areas where combustible dusts may be present due to accidental or abnormal operation

Features:

- The W2H is solid-state, compact, rugged but lightweight. The system is programmable, which allows the convenience of tone selection, without the need for separate tone modules. Each unit can be programmed for any one of four different tones (whoop, wail, hi-lo and horn), by wiring to the corresponding terminal on the unit's terminal strip. Separate sound modules not required.
- Unit may be field wired for multiple signal selection by manual or automatic control.
- 180° speaker rotation allows flexibility in direction of sound.
- · Corrosion-resistant conformal coating protects the printed circuit and other interior components.

Certifications and Compliances:

- UL Standard: 1203
- NEC:

Class I, Division 2, Groups A, B, C, D Class II, Division 2, Group G

• NEMA 3, 7ABCD Division 2, 9G Division 2

Standard Materials:

- Body die-cast aluminum
- Projector spun aluminum
- Hardware stainless steel

Standard Finishes:

- Body and projector gray hammertone enamel
- Stainless steel natural

Sound Levels:

• Minimum audibility rating (dB) at 10': W2H Series - 93dB



Signal Selection:

Signal Terminal	Sound Description	Audible Frequency	Repetition Rate
#4 Whoop	Ascending low to high, repeated	Low tone – 400 Hz High tone – 850 Hz	48 cy/min. 48 cy/min.
#5 Wail	Conventional Siren	400 – 1100 Hz	24 cy/min.
#6 Hi-Lo	Alternating Hi-Lo	Low tone – 650 Hz High tone – 850 Hz	24 cy/min. 24 cy/min.
#7 Horn	Steady	630 Hz	Continuous

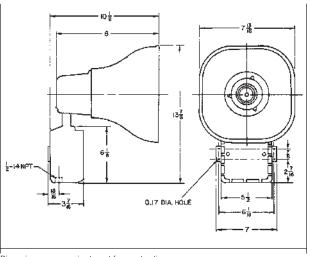
Electrical Rating Ranges:

• Nominal voltage - 24, 120, 240 AC; 60 Hz 24 DC

Ordering Information - Normal Power

	•			
	Nominal Voltage	Operating Current	Standby Current	Cat. #
	24VDC	0.55A	0.06A	W2H840
1	24VAC	1.25A	0.13A	W2H640
	120VAC	0.27A	0.03A	W2H620
	240VAC	0.15A	0.02A	W2H660

Dimensions In Inches:



Dimensions are approximate, not for construction purposes

Crouse-Hinds by **FAT•N**

Applications:

WH vibrating horn signals are used:

- For code or call signals, or as a general alarm in a signal system that might involve hours of continuous operation
- In non-hazardous atmospheres of industrial areas such as warehouses, yards, exteriors of buildings, and in-plant areas
- Mounted on walls or other flat surfaces with projectors aimed in a desired direction

Features:

 The joint between the body and horn assembly is gasketed for raintightness

Certifications and Compliances:

• UL Standard: 464

Standard Materials:

• Copper-free aluminum and die cast zinc

Standard Finishes:

• Gray hammertone enamel

Capacity Ranges:

 Minimum audibility rating (dB) at 10': AC – 87 decibels

Electrical Rating Ranges:

- Nominal voltage
 120 AC, 50 / 60 hertz
- Operating characteristics
 Voltage range +10%, -20%
 Nominal watts 18 VA on 120 VAC





WH with grill

WH with single projector



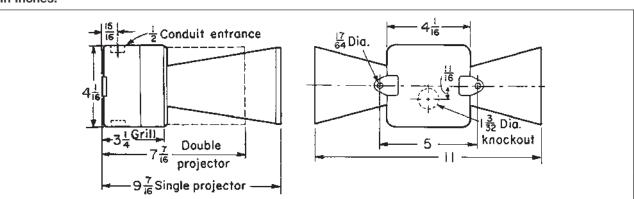
WH with double projector

Ordering Information

C. G. G. 1111;	9			
Nominal Voltage	Nominal Voltage	Grill Cat #	Single Projector Cat. #	Double Projector Cat. #
.15	120 AC 50 to 60 Hz	WH13503	WH13513	WH13523

Dimensions

In Inches:



Dimensions are approximate, not for construction purposes.

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Applications:

ESR bell signals are used:

- For call signals, alarms, or in various other signalling applications
- In specific hazardous atmospheres such as in chemical plants, oil and gas refineries, bulk loading stations, paint and varnish manufacturing plants, grain processing industries and grain elevators, as well as in certain metal, coal, combustible fiber processing or handling areas
- In conduit systems, and mounted on a vertical flat surface with the striker at the bottom

Features:

- · The conduit hub contains an integral bushing.
- The body cover assembly permits the location of a hub at the top, bottom or either side (the striker must be located at the bottom for proper operation).
- There are no external seals required except when used in Group B hazardous areas.
- The AC signal does not have arcing contacts.
- Binding screw terminals are provided in AC signals for supply conductors.
- A vibrating or single stroke striker mechanism is furnished with 6 or 10 inch diameter gongs.

Certifications and Compliances:

Standard Units:

• NEC/CEC:

Class I, Division 1 & 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

NEMA/EEMAC: 7CD, 9EFG

UL Standard: 464, 1203CSA Standard: C22.2 No. 30

Group B Units:

• NEC/CEC:

Class I, Division 1 & 2, Groups B, C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

NEMA/EEMAC: 7BCD, 9EFG

• UL Standard: 464, 1203

• CSA Standard: C22.2 No. 30

Standard Materials:

- Body Feraloy® iron alloy
- Cover copper-free aluminum
- Junction box body – Feraloy iron alloy cover – copper-free aluminum
- Gong steel

Standard Finishes:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Aluminum natural
- Steel gray matte



Size Ranges:

• Hub - one 3/4" size

Sound Levels:

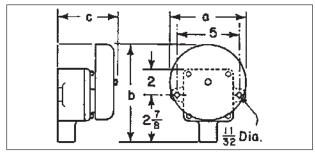
• See Table 1 below for individual ratings

Electrical Rating Ranges:

• Nominal voltage - 12, 24, 48, 115, 230 AC

See Table 1 for complete ratings.

Dimensions In Inches:



Dimensions are approximate, not for construction purposes.

Dia. Gong	а	b	С	_
6	6	63/4	51/4	_
10	10	10 ³ / ₄	6	

Table 1

Operating Current in Amperes at the Nominal Voltage For Bell Signals

Nom. Volts	Amperes All Vibrating 25 to 60 Hz AC	All Single Stroke 50 to 60 Hz AC
12	1.67	1.75
24	.53	.62
48	.44	.41
115	.189	.189
230	.092	.086

ESR Bell Signals

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III

Explosionproof Dust-Ignitionproof Raintight Wet Locations

5S

Factory Sealed

Ordering Information:

					(0= 1 00 1 1)		Minimum audibility	Single Stroke Hammer	Minimum audibility
Hub Size					Standard Units Cat. #	Group B Units‡ Cat. #	rating (dB) at 10':	(50 to 60 hertz) Cat. #	rating (dB) at 10':
		12	9.6 to 13.2		ESR2675	ESR2675 GB	67	ESR2665	64
		24	19.2 to 26.4		ESR2674	ESR2674 GB	82	ESR2664	64
		48	38.4 to 52.8	6	ESR2673	ESR2673 GB	88	ESR2663	67
		115	92 to 126.5		ESR2672	ESR2672 GB	88	ESR2662	67
		230	184 to 253		ESR2671	ESR2671 GB	85	ESR2661	67
3/4	AC								
		12	9.6 to 13.2		ESR2615	ESR2615 GB	82	ESR2625	64
		24	19.2 to 26.4		ESR2614	ESR2614 GB	85	ESR2624	64
		48	38.4 to 52.8	10	ESR2613	ESR2613 GB	85	ESR2623	67
		115	92 to 126.5		ESR2612	ESR2612 GB	91	ESR2622	67
		230	184 to 253		ESR2611	ESR2611 GB	85	ESR2621	67

[‡] Install seal within 11/2" of conduit opening.

Combination Visual & Audible Signaling Devices

Hazardous

Description	Page No.
Combination Units - MEDC Series	_
DB3/SM87	see pages 1300-1301
DB3/XB11	see pages 1300-1301
DB12/XB13	see pages 1300-1301

6S

Visual and Audible Combination Units

MEDC Series

Truly a unique product offering with integral visual and audible signaling devices pre-wired for simultaneous output activation.

- Suitable for Class I, Division 2 applications
- Strobe light and audible tone generator in one package
- · Mounts with ease and facilitates quick field wiring
- UL, cUL, Ex and ATEX for worldwide acceptance

This range of lightweight all GRP, explosion proof horns intended for use in potentially explosive atmospheres has been designed with high ingress protection to cope with the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

The flamepaths, flare, and body are manufactured completely from a UV stable glass reinforced polyester. Stainless steel screws and sinter are incorporated thus ensuring a corrosion-free product. A tapered flamepath is used to overcome the problems of assembly of parallel spigot flamepaths.

Features and Benefits:

- All GRP corrosion-free
- Up to 108dBA output at 10 feet
- Integral volume control
- 27 tones, user selectable
- Horn/Strobe Combination Unit available

Certifications and Compliances:

• UL Listed for USA and Canada

Hazardous locations:

Class I, Div. 2, Groups A, B, C, D

Class I, Zones 1 & 2, AExd IIC T4

- Ordinary locations: Audible Signal device
- ATEX approved
- NEMA 4X & 6, IP66 & 67
- Certified temperature
 - -67°F to +158°F
 - -55°C to +70°C

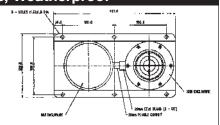


Horn/Strobe Combination Unit

MEDC Series

Visual & Audible Combination Units – Hazardous Locations, Weatherproof





Certification	Voltage	Lens/Body Color	Ordering Code	Cat. #	Standard Product Configuration
ATEX Ex II 2GD	24V DC	Red/Red	803130	DB3/XB11B24V RED/RED	DB3/XB11, Exd IIB T5, choice of 27 tones, 115dB(A) at 1m output, 29 Cd, no labels, 1 x M20 entry
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Red/Natural Black	869200	DB3/XB11UL24V RED/NB	DD0/VD44_CDD masterial NIFMA 4V 9.C
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Red/Red	869205	DB3/XB11UL24V RED/RED	DB3/XB11, GRP material, NEMA 4X & 6, choice of 27 tones, 106dB(A) at 10 feet output, 29 Cd, no labels, 1 x ½" NPT entries
UL, cUL Listed, Class I, Div. 2, Groups C, D	110V AC	Red/Red	869210	DB3/XB11UL110V RED/RED	



Certification	Voltage	Lens/Body Color	Ordering Code	Cat. #	Standard Product Configuration
UL, cUL Listed, Class I, Div. 1, Groups C, D	24V DC	Red/Red	62500182	DB1P/SM87HXBUL 24V RED/RED	24V DC, alloy sounder, interconnected to, painted red stainless steel baseplate, alloy 5 joule beacon
UL, cUL Listed, Class I, Div. 2, Groups C, D	24V DC	Red/Red	62500183	DB3/SM87HXBUL 24V RED/RED	GRP sounder interconnected to, painted red stainless steel baseplate, alloy 5 joule beacon



Certification	Voltage	Lens/Body Color	Ordering Code	Cat. #	Standard Product Configuration
Ex II 2GD	24V DC	Red/Red	62500009	DB12/XB13 24V RED/RED	IP66 & 67 weatherproof only, 24V DC, GRP sounder interconnected to, on a painted red stainless steel baseplate, a IP66 & 67 weatherproof only, GRP 10 joule beacon

Plugs & Receptacles

Section P

Rugged construction, extensive configurations, custom capabilities and numerous interlocked designs provide safe and reliable NEC and IEC solutions for fixed or portable power applications











New Products in the Plugs & Receptacles Product Line

- Ark•Gard® Portable ENR-GFCI Assemblies
- Portable GFCI Cable Assemblies
- Posi-Max Power Distribution Panels
- PowerMate™ Plugs, Receptacles and Connectors
- PowerGard™ Universal Receptacles and Back Boxes
- Roughneck Single-Conductor Connectors
- Cam-Lok™ Single Pole Connectors
- Quik-Loc™ Connectors
- Metallic Quik-Loc[™] Connectors
- LynxPOWER™ Passive Connectors
- LynxPOWER™ Network Connectors

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2P
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11P 11P

Notable changes to the Plugs & Receptacles section of this catalog

- Section 8P now contains special purpose plugs and receptacles for both hazardous and non-hazardous areas (previously 8P & 9P)
- New section 10P for Drilling Connectivity Solutions
- New section 11P for Industrial Connectivity

P Plugs and Receptacles

Table of Contents

Section 1P

Industrial Heavy Duty Plugs and Receptacles

(for use in non-hazardous areas)

Receptacles Plugs

AR AP, APJ, CPH, CPP, NPJ APR AP, APJ, APQ, CPH, CPP, NPJ, NPQ

NR APJ, CPH, CPP, NPJ NPR APJ, CPH, CPP, NPJ, NPQ

Section 2P

Industrial Heavy Duty Plugs and Receptacles

(for use in hazardous areas)

 Receptacles
 Plugs

 CES, CESD
 CPH

 CPR*
 CPP

 CPS
 APJ, NPJ

 ENR
 ENP

Connectors ENC*

Section 3P

Interlocked Heavy Duty Plugs and Receptacles

(for use in non-hazardous areas)

Receptacles Plugs
CSR APJ, NPJ
NBR APJ, CPH, NPJ
WSR, WSRD APJ, CPH, NPJ
NSR APJ, CPH, NPJ
WSQC APJ, CPH, NPJ

Section 4P

Interlocked Heavy Duty Plugs and Receptacles

(for use in hazardous areas)

 Receptacles
 Plugs

 BHR
 BHP, SP

 DBR
 APJ, CPH, NPJ

 EPC
 APJ, DP, CPH, NPJ

 EBBR
 APJ, CPH, NPJ

 EPCB
 APJ, CPH, NPJ

 FSQ
 APJ, BP, CPH, NPJ

 SRD
 SP, BHP

Section 5P

IEC 309 Pin & Sleeve Devices

(for use in hazardous and non-hazardous areas)

IEC 309 Heavy Duty Hazardous IEC 309 Heavy Duty Industrial

*Not suitable for hazardous areas in the United States in compliance with NEC regulations.

Section 6P

Wiring Devices with Covers

(for use in non-hazardous areas)

WLRS/WLRD Covers GFCI Covers

Section 7P

Industrial Cord and Cable Reels

Cable-Gard[™] Series Static Discharge Reels

Section 8P

Special Purpose Plugs and Receptacles

ARK-trol® Series

(for use in non-hazardous areas)

RPC RPE

(for use in hazardous areas)

ŘРХ

Section 9P

Portable Power Solutions

(for use in hazardous and non-hazardous areas)

Custom Portable Power Solutions

Cable Assemblies

Portable GFCI Cable Assemblies
Posi-Max Power Distribution Panels

Section 10P

Drilling Connectivity Solutions

(for use in hazardous and non-hazardous areas)

PowerMate[™] Series PowerGard[™] Series Roughneck Series

Section 11P

Industrial Connectivity

(for use in non-hazardous areas) Cam-Lok™ Series

Cam-Lok™ Series Posi-Lok™ Series Roughneck Series Quik-Loc™ Series

LynxPOWER™ Passive Series LynxPOWER™ Network Series

Considerations for Selection

The Plugs and Receptacles Section of the Eaton's Crouse-Hinds Product Catalog contains complete technical information on the Eaton's Crouse-Hinds line of these products.

In addition to product listings and features, the section contains information on interchangeability of plugs and receptacles, the different grounding methods incorporated in the construction of the units, and separate sections devoted to receptacles interlocked with switches and/or circuit breakers.

The plugs, receptacles, and interlocks featured in this section include the Arktite® pin and sleeve offering, Ark•Gard® NEMA blade-style units, IEC 309 devices, ARK-trol® electrical connectors, and Cable-Gard™ cord and cable reels.

Arktite® Series

Metallic and non-metallic Arktite series units are available for use in hazardous and non-hazardous areas for general purpose, heavy duty applications in power circuits. All units through 100 ampere rating offer circuit breaking capability under load; some units are offered with interlocking mechanism with switch and/or circuit breaker, where dead front receptacles are desired, 400 ampere units are for service disconnect use only and are not for current interrupting.

An interchangeability table on the next page graphically shows interchangeability between products in the complete line of pin and sleeve type plugs and receptacles. Full electrical rating details are shown in the interchangeability charts at the beginning of each section in the Plugs and Receptacles Section of this catalog.

Ark•Gard® Series

The Ark•Gard® series is the ideal solution for rugged and industrial NEMA blade-style applications up to 20 amperes. This offering now includes the exciting new hazardous rated ENC Connector, the upgraded Frustration-Free ENP Plug and the ENR-GFCI Kit. The Ark•Gard line includes features that provide ease of installation, added safety, reduced maintenance costs, and increased product life.

IEC 309 Series

Eaton's Crouse-Hinds has combined years of field-proven Arktite pin and sleeve expertise with German-North American precision engineering and manufacturing to offer the world's best IEC 309 plug and socket product line. Available in heavy duty industrial and hazardous area designs, this global product line features the latest technological innovations to lead the way in IEC 309 performance.

ARK-trol® Series

Units are available for use in hazardous and nonhazardous areas for special purpose application in power and/or control circuits where environmental factors are important or a wide range of contacts, sizes and configurations is required.

Cable-Gard™ Series

Electric cord and cable reels are used extensively in modern factories for "managing' all loose extension cables to ensure safety, increase efficiency, and extend cable and portable equipment life.

Electric reels automatically transmit electric current (power or control) from a stationary position to a moving consumer of current.

Considerations for Selection

The considerations in the selection of plugs and receptacles are the electrical ratings desired and the physical location of the units. This information, together with the product features, construction details, and customer benefits, is shown on the individual pages in selecting the proper plugs and receptacles, other factors in addition to the electrical ratings and the physical aspects regarding location of the application (e.g., hazardous areas) should be considered. Principally, these factors are: interchangeability of plug and receptacle, interlocking and grounding.

Grounding

Eaton's Crouse-Hinds utilizes two methods for completing the grounding circuit in plugs and receptacles.

Style 1:

A Style 1 plug is one in which the grounding conductor in the flexible cable is bonded to the plug sleeve by a pressure connector. A Style 1 receptacle is one which is grounded by virtue of the fact that it is an integral part of a grounded conduit system. On insertion, the plug sleeve makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.

Style 2:

A Style 2 plug is one in which the grounding conductor in the flexible cable is bonded to the extra (grounding) pole and sleeve by a pressure connector. A Style 2 receptacle is one in which the extra (grounding) pole is electrically connected to the equipment grounding conductor and the receptacle housing which itself is grounded by virtue of the fact that it is an integral part of a grounded conduit system. In a Style 2 receptacle, the grounding connection is made before line and load poles engage, and is broken after line and load poles disengage. Furthermore, upon insertion, the plug sleeve of metal shelled units makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.

This method is used on plugs and receptacles for hazardous areas, on configured Arktite and on all *Arktite* products made of *Krydon** material.

It meets the National Electrical Code/Canadian Electrical Code requirements for this equipment. The Arktite line offers a choice of both methods; other plugs and receptacles are offered in one of the two styles (details are given on the individual pages). Details on construction and diagrams of both methods are found in Section 1P, see pages 1312–1314.

Interlocked Units

Where added safety is desired and for units of higher ratings, Sections 3P and 4P detail receptacles with interlocked switches and/or circuit breakers. The ability to break the load before removal of the plug, circuit protection and disconnect capability are the prime benefits to be derived from equipment shown in those sections.

Interchangeability Between Eaton's CrouseHinds Product Families

A unique capability exists throughout much of the Eaton's Crouse-Hinds plug and receptacle line that enables a variety of receptacles to be used with the same plug - provided the electrical rating and style of plug and receptacle are the same (see Interchangeability Table on next page). Where a common wiring system is in use, it is possible to use the same standard plug with a number of different receptacle assemblies located in different areas where each receptacle is selected to meet the physical or environmental requirement of the specific area. For example, a process industry facility could include Class I, Groups C and D areas and Class II, Group G areas as well as non-hazardous areas. A portable device suitable for use in the hazardous areas could be equipped with an APJ Arktite plug or NPJ Arktite plug made of Krydon® material and be used in all areas of the plant. The receptacle installation could include AR or NR units in the non-hazardous areas; DBR interlocked recentacles in the Class II. Groups F and G areas and FSQC or EPC interlocked receptacles in the Class I, Groups C and D areas - all of which will accept the same APJ or NPJ plug.

CPH plugs can also be used with any receptacle which accepts a standard APJ or NPJ Arktite plug of the same ampere rating, style, and number of poles. This feature permits the use of a portable device, suitable for hazardous locations, in all areas of a plant, but prevents the use of an "ordinary locations" device in the hazardous areas. The following table is a summary of possible combinations. Full details describing the possibilities for interchanging plugs and receptacles are given in this section of the Eaton's Crouse-Hinds Product Catalog.

Plugs and Receptacles

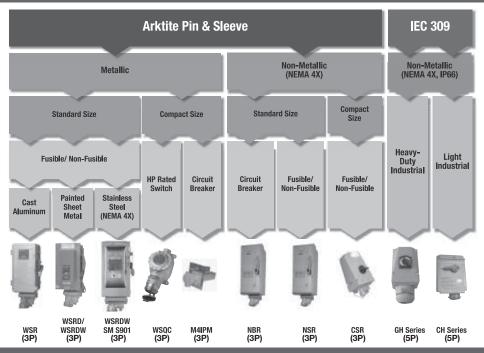
Interchangeability Table

		Eaton's Crouse-Hinds Pin and Sleeve Design Plugs†							
Eaton's Crot Heavy Duty Receptacles and Connec	1	APJ	AP.	BHP	СРН	CPP	DP	NPJ	SP
Delayed Acti	ion for Hazardous Area	<u> </u>							
CPS	see pages 1344-1347					•			
CES/CESD	see pages 1361–1363				•				
	ked For Non-hazardous								
APR	see page 1312	•	•		•	•		•	
AR	see page 1312	•	•		•	•		•	
CPR	see page 1348					•			
NR	see page 1329	•			•	•		•	
NPR	see page 1329	•			•	•		•	
Interlocked	for Hazardous Areas								
BHR	see pages 1392-1393			•					•
EBBR	see pages 1389-1390	•			•			•	
EPC	see pages 1396-1397	•			•		•	•	
EPCB	see pages 1399-1400	•			•			•	
FSQC	see pages 1386-1387	•			•			•	
SRD	see pages 1394-1395			•					•
Interlocked 1	for Non-hazardous Area								
CSR	see pages 1374-1376	•			•			•	
DBR	see pages 1401-1402	•			•			•	
NBR	see pages 1379-1380	•			•			•	
NSR	see pages 1381-1382	•			•			•	
WSR	see pages 1368-1369	•			•			•	
WSQC	see page 1378	•			•			•	
WSRD	see pages 1368-1369	•			•			•	
WSRD SS	see pages 1370-1372	•			•			•	
WSRDW	see pages 1368-1369	•			•			•	

Plugs mate with indicated receptacles.
 † Consult individual catalog pages for complete listing of Eaton's Crouse-Hinds plugs, receptacles and connectors.

Interlock Selection Guide

Industrial Selection Guide (Non-Hazardous)



Hazardous Selection Guide

	Arktite Pin & Sleeve						MA Style		tom uration	IEC	309					
Delayed	Delayed Action		Interlocked Receptacle				ayed tion	Mates with	Mates with	Non- Metallic	Metallic Stainless					
Low Amperage	High Amperage	HP Rated	Circuit Breaker		Lockout Hinged Hinged						Hinged Hin		BHP Plug	SP Plug	GRP	Steel
(20-30A)	(30-60A)	Threaded Cover	Hinged Cover	Threaded Cover	Bolted Cover	Cover	Threaded Cover	Groups	O D	Zones	Zones					
Groups C,D	Groups C,D	Groups B,C,D	Groups B,C,D	Groups B,C,D	Groups F, G Only	Groups B,C,D	Groups B,C,D	Groups B,C,D	Group D	1 & 2	1 & 2					
								X								
4			4	-		6	0									
CPS (2P)	CES (2P)	FSQC (4P)	EBBR (4P)	EPC (4P)	DBR (4P)	ENR M3 (2P)	ENR M4 (2P)	BHR (4P)	SRD (4P)	GHG51 GRI Series (5P)	GHG51 SS Series (5P)					

Plugs and Receptacles Industrial Heavy Duty Non-hazardous

Description	Page No.
Application/Selection	see page 1310
Arktite® Series	
Technical Data	see pages 1312-1313
Aluminum AR/APJ Style	
20A	see page 1317
30A	see pages 1318-1319
60A	see pages 1320-1321
100A	see pages 1322-1323
150A	see pages 1322-1323
200A	see pages 1324-1325
400A	see pages 1327-1328
Back Boxes	see page 1332
Krydon® NR/NPJ Style	
Technical Data	see page 1329
30, 60, 100A	see page 1330
Flanged Panel Mount	see page 1336
Motor Plugs	see page 1338

1P Plugs and Receptacles

Industrial Heavy Duty Application and Selection

Applications:

- Distribution of secondary electrical
 nower
- Provide quick disconnect from power source

Considerations for Selection:

Electrical System:

Amperage and voltage required for application

Wiring system and number of conductors required. See page 1316 for contact sizes.

Compatibility with System:

 Need for interchangeability with plugs in existing system and within parts of new system. Grounding styles. Two styles utilized. See page 1314 for complete description to determine which is suitable for needs.

Mounting Arrangement:

 Three types of mounting available – surface, flush and panel

Application:

 Fixed receptacle for power outlet; cable connectors for portable cable extensions

Other Considerations:

- Wire sizes and recess dimensions available. See page 1316 for complete details. National Electrical Code, UL, NEMA, Canadian Electrical Code, CSA compliances
- Environment need for operation in harsh, dirty or corrosive conditions

Options:

 Special polarity arrangements available as well as special back boxes and hub arrangements. See listing pages for details.

Quick Selector Chart

	ı	Electrical Character	ristics				
Receptacle Series	Receptacle Amperage (Range)		Volts (Max.)	No. of Poles (Range)	Grounding Style†	Mounting	Mating Plug
APR	Portable cable	20, 30, 60, 100, 200, 400	600VAC 250VDC	2–5	1-2		APJ, NPJ, APQ, AP
AR	Fixed	20, 30, 60, 100, 150, 200, 400	600VAC 250VDC	2–5	1-2	Back box (surface)	APJ, NPJ, AP
AR Panel Mount	Fixed	30, 60, 100, 200	600VAC 250VDC	2–4	1-2	Panel mtg. (semi-flush)	APJ, NPJ, AP
NPR	Portable cable	30, 60, 100	600VAC 250VDC	3–4	2		NPQ, APJ, NPJ (fixed)
NR	Fixed	30, 60, 100	600VAC 250VDC	3–4	2	Back box (surface)	APJ, NPJ

†See page 1314 for detailed explanation.

Plugs and Receptacles

Industrial Heavy Duty Interchangeability Chart

Interchangeability Chart

Many of the plugs listed in this section can be used interchangeably with receptacles from other sections, both in hazardous and non-hazardous areas, provided electrical rating and style of plug and receptacle are the same. The following table is a summary of possible combinations.

Plugs Shown in Section 1P	Can be Used with These Receptacle Series	Listed in Section	Plugs & Receptacle Electrical Rating
APJ, NPJ*	DBR	4P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
	FSQ	4P	30 amp. 2-wire, 3-pole 3-wire, 4-pole
	EPC, EPCB, EBBR	4P	30, 60, 100 amp.† 2-wire, 3-pole 3-wire, 4-pole
	NBR, NSR	3P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
	WSR	3P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
	WSRD	3P	60 amp. 3-wire, 3-pole 3-wire, 4-pole

^{*}NPJ, NR and NPR available in 2-wire, 3-pole and 3-wire, 4-pole electrical ratings only. †150A EBBR available in 3-wire, 4-pole electrical rating.

1P Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

Industrial Heavy Duty Non-hazardous Areas

Applications:

Arktite circuit breaking plugs and receptacles are used:

- To supply power to portable electrically operated devices such as motorgenerator sets, compressors, heating and cooling units, welders, conveyors, lighting systems and similar equipment
- Where temporary power is needed, such as at trailers, building units, heavy machinery and similar equipment
- Wherever electrical loads must be quickly disconnected from power source
- In a typical installation, where a large machine utilizes a number of electrical motor drives and for ease of adjustment, removal, maintenance and replacement, each motor is connected by portable cord and Arktite receptacles rather than permanently wired
- In areas where dust, dirt, moisture and corrosion are a problem
- Indoors and outdoors in non-hazardous areas of chemical plants, process industry facilities, meat packing plants, manufacturing plants and similar industrial locations

Features:

- Circuit breaking: plugs through 100 ampere rating may be disconnected under load; 150-400 ampere units are for service disconnect use only.
- Receptacles accept only plugs of the same amperage rating, style and number of poles, making it impossible to mismate, and provides for positive polarization.
- Extra wide electrical spacing allows for maximum safety.
- Insulator materials are the result of intensive testing. Selection has been made based on highest dielectric strength, maximum mechanical and impact resistance, lowest moisture absorption and highest arc tracking resistance.
- A variety of installations is possible due to the availability of several types of back boxes.
- Designed to withstand rough usage and the effects of adverse environments.
- Reversible interiors, 30, 60 and 100 ampere (except 30 and 60 ampere, 5-pole) Arktite plug and receptacle interiors are interchangeable using a screwdriver. This makes it possible to feed a normally de-energized receptacle from an energized plug with usual Arktite safety; no energized contacts are exposed.

Certifications and Compliances:

- UL Standards: 1203*; 1682, 1686
- CSA Standard: C22.2 No. 182.1
- CE (LVD) 2006/95/EEC**

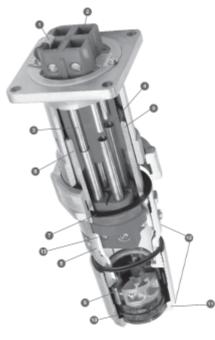


^{*} APJ and NPJ plugs only

^{**} Excludes 200A and 400A APR Connectors

Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

Industrial Heavy Duty Non-hazardous Areas



Split Pin Contact Design:

- Provides nearly 360° of contact at every insertion, ensuring protection against heat rise and eliminating arcing on critical surfaces
- Continuous contact over length and circumference of mated pins provides superior safety and longterm performance
- Self-wiping at every insertion to prevent environmental contamination build-up



- 1 The ground contact is bonded to the receptacle housing (Style 2)
- 2 Unimpeded, easy-access phase and ground terminals make wire termination quick and easy
- **3** Grounding contacts that make-first and breaklast in the unlikely event of keyway failure
- 4 An arc formed when the plug is being removed is instantly snuffed in the deep confined insulated arcing chamber
- A detent spring forms a parallel grounding path through the metallic plug sleeve and receptacle housing and is the first contact to make and the last to break
- The plug sleeve is keyed to the receptacle to prevent mispolarization

- The gasketing system provides unsurpassed watertight integrity (NEMA 4)
- All aluminum Uni-Shell™ construction provides superior strength in abusive environments
- The Tri-Lock™ cable grip has 3-piece design that equally distributes gripping power around perimeter of cable. Cord jacket does not get pinched, eliminating potential for damage to both internal conductors and external cable jacket. Cable grip is located inside plug housing, eliminating corrosion of vital hardware and making plug maintenance easy.
- The unique Sure-Seal™ cable gland has two gasket sizes which fit entire range of cable diameters, reducing risk of improper assembly. The gasket ratchets into the Trilock™ cable grip to prevent plug from turning or loosening in high vibration areas.
- Wrenching surfaces make Arktite plugs quick and easy to assemble
- ② Smooth and contoured design of plug housing eliminates occurrence of cable grip snagging or breaking off. Tri-Lock™ screws are captive so cable grip cannot come apart during assembly. Prevents critical screws from getting lost during installation.
- Plastic sleeve between insulator body and housing minimizes possibility of electrical shock in event of ground failure. Increases creepage and clearance protection.

Arktite® Advantage Features:

Internal Plug Safety Insulator

- Plastic barrier between insulator body and metal housing minimizes risk of energizing handle body due to stray conductor strands
- Increases creepage and clearance protection

CE Marked

 Offers a borderless solution with no additional inspection or documentation required for approval

Lockout Plug

- Allows users to comply with OSHA lockout/tagout requirements
- Ensures plug cannot be inserted into receptacle when maintenance is being performed downstream of power supply

Tri-Lock Cable Grip

- Three-piece design equally distributes grip around perimeter of cable
- Cable jacket does not get pinched, eliminating potential for damage to internal conductors
- Captive screws allow maximum extension of cord grip without risk of loose components

Sure-Seal Cable Gland

- Two gasket sizes fit entire cable range, reducing risk of improper assembly
- Gasket ratches into Tri-Lock cable grip to provide environmental protection in high vibration areas



Plug Housing

- Smooth design eliminates occurrence of cable grip snagging or breaking off
- Houses Tri-Lock cable grip to eliminate corrosion of vital hardware and increase ease of maintenance



Combination Drive Stainless Steel Hardware

- Increases ease of installation by allowing for more than one option for installation tools
- Stainless steel external hardware eliminates corrosion on critical components and extends product life



Insulator Assemblies

- Unimpeded, easy access phase and ground terminals make wire termination quick and easy
- Lug screws secured with tape to prevent them from vibrating loose and falling out during shipping



Combination Slot and Hex Mechanical Lugs*

- Increases ease of installation by allowing for more than one option for installation tools
- Hex head allows for easy achievement of specified torque value



Receptacle Cover

- Automatic weatherproof seal every time plug is disengaged
- Field replaceable design allows for new cover to be threaded on guickly and easily













*60, 100, and 150A offering.



1P Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

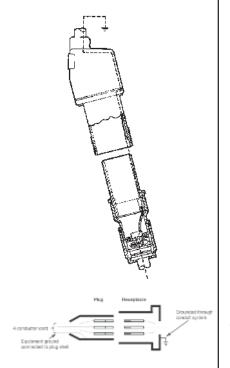
Industrial Heavy Duty Non-hazardous Areas

Grounding: Style 1 vs. Style 2

Eaton's Crouse-Hinds Arktite devices utilize two methods, or styles, for completing the grounding circuit in plugs and receptacles. NEC reference 250.138 (A) & (B).

Style 1 - Metallic

A Style 1 plug is one in which the grounding conductor in the flexible cable is bonded to the plug sleeve by a pressure connector. A Style 1 receptacle is one which is grounded by virtue of the fact that it is an integral part of a grounded conduit system. On insertion, the plug sleeve makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.

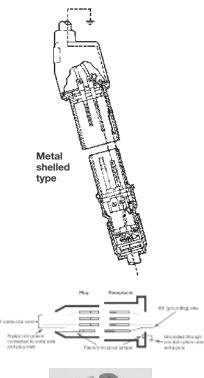




Style 1 Ground conductor attaches to shell.

Style 2 - Metallic

A Style 2 metallic housing plug is one in which the grounding conductor in the flexible cable is bonded to the extra (grounding) pole and metal plug sleeve by a pressure connector. A Style 2 metallic housing receptacle is one in which the extra (grounding) pole is electrically connected to the equipment grounding conductor and the metal receptacle housing which itself is grounded by virtue of the fact that it is an integral part of a grounded conduit system. In Style 2, nonmetallic housing plugs and receptacles, the extra pole is used for grounding since the housings are non-conductive.

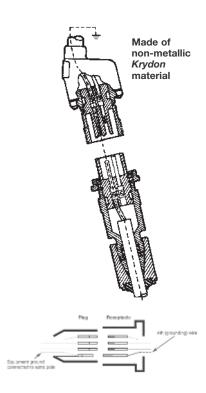




Style 2 Ground conductor attaches to contact, which is bonded to

Style 2 - Non-metallic

In a Style 2 receptacle, the grounding connection is made before line and load poles engage, and is broken after the line load poles disengage. Furthermore, upon insertion, the plug sleeve of metal shelled units makes contact with detent springs of the grounded receptacle housing before line and load poles engage, and on withdrawal, remains in contact until after line and load poles disengage. Therefore, exposed metal parts of the portable equipment or plug are suitably grounded.



Arktite® Heavy Duty Circuit Breaking§ Plugs and Receptacles

Industrial Heavy Duty Non-hazardous Areas

Standard Materials:

- Metallic receptacle housings, plug and cord connector bodies – high impact strength copper-free aluminum
- Non-metallic receptacles, plugs and cord connectors – Krydon® fiberglassreinforced polyester material
- Back boxes: 20, 30, 60, 100, 150 and 200 ampere – cast aluminum; 400 ampere – Feraloy® iron alloy
- Insulation (metallic products): (2-, 3-, and 4-pole) 30, 60, 100, 200, 400 ampere – fiberglass-reinforced polyester; 20, 30 ampere (5-pole) – melamine
- Contacts: pressure, solder, binding screw – brass; crimp/solder 20, 30, 60, 100 ampere – leaded red brass; crimp/solder 150, 200, 400 ampere – telurium copper

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Aluminum natural
- Krydon fiberglass-reinforced polyester material gray
- Fiberglass-reinforced polyester insulation (red)
- Melamine natural (brown)
- Brass natural
- Leaded red brass electro-tin-plate

Options:

The following special options are available from factory by adding the suffix to the Cat. #:

Description

Suffix

- Reversed contacts. Receptacle assembled with plug interior (exposed contacts), plug assembled with receptacle interior (recessed contacts). For applications where plug is energized to feed normally de-energized receptacle. Available on 30 through 400 ampere units... S22
- Special polarity. For use where two or more receptacles of the same ampere rating, style and number of poles are to be installed in the same area for use on different voltages and/or frequencies. Prevents insertion of a plug in a receptacle with different electrical rating.

Available on 20 through 400 ampere units as follows:

- Receptacle interior rotated 22½° to right and plug changed to match (see photo to right)......S4
- Corro-free[™] epoxy powder finish for added corrosion resistance...... \$752



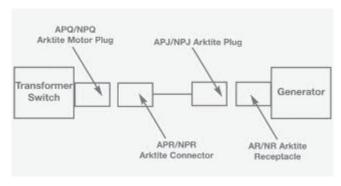
Arktite receptacles have a cast raised rib located inside the receptacle sleeve. The location of the rib is in a specific relationship to the receptacle insulator that houses the contacts.



The mating plug has a cast groove located on the outside of the plug sleeve. This groove lines up with the raised rib.

Accessories:

- Accessories include a variety of angle adapters, panel adapters and back boxes for Arktite receptacles, see pages 1332–1335.
- Included throughout 1P are wire mesh cable grips and protective caps for Arktite plugs.



Typical Installation

Arktite® Heavy Duty Circuit 1P Breaking§ Plugs and Receptacles

Industrial Heavy Duty Non-hazardous Areas

Arktite Horsepower Ratings Locked-Rotor Interrupting

	Motor H	lorsepow	er†	
Ampere Rating Plug and Receptacle	120 Volts	240 Volts	480 Volts	600 Volts
Single-phase Electrical Syste	m			
30 60 100 200	2 5 10 15	3 10 20 40	7.5 25	10 20
Three-phase Electrical System	m			
30 60 100 200	3 10 15 30	5 20 30 60	10 40 40 25	10 50 25 15

Maximum Horsepower for Plug and **Receptacle Combinations by Input** Voltage*

Following values are typical horsepower ratings based on NEC Article 430 tables.

HP Ratings are based on the largest conductor size for each plug and receptacle combination per the Wire Size table below.

	Motor Horsepower 					
Ampere Rating Plug and Receptacle	240 Volts	480 Volts	600 Volts			
30	15	30	40			
60	20	40	50			
100	30	60	75			
150	40	75	100			
200	60	125	150			

Wire Sizes:

The table below lists the diameter of the wire recess in Arktite plug and receptacle contacts so that maximum size of bare conductor can be figured. Range of wire sizes shown in table is intended only as a guide. Depending on type of wire used (building wire, flexible or extra flexible cable) and its construction (number and size of strands), bare copper diameters vary widely.

Diameter of Wire Recess in Plug and Receptacle Contacts

Ampere	Contact	Diameter	Wire Size‡	
Rating	Туре	of Recess	Building	Extra Flex
20	Binding Screw	N/A	#14-#12	#14-#12
30 (2, 3, & 4-pole)	Pressure	.281	#10-#6	#10-#8
30 (2, 3, & 4-pole)	Crimp/Solder	.180	#10-#8**	#10-#8
30 (5-pole)	Solder	.188	#12-#6	#12-#8
60 (2, 3, 4 & 5-pole)	Pressure	.312	#6-#4	#8-#4
60 (3 & 4-pole)	Crimp/Solder	.277	#6-#4**	#8-#4
100 (2, 3 & 4-pole)	Pressure	.390	#4-#1	#4-#2
100 (3 & 4-pole)	Crimp/Solder	.390	#2-#1**	#2-#2
150 (4-pole)	Pressure	.390	#2-2/0	#2-1/0
200 (3 & 4-pole)	Pressure	.687	2/0-4/0	2/0-3/0
200 (Std. 3 & 4-pole)	Crimp/Solder	.560	#1-4/0	#1-3/0
200 (Lg. 3 & 4-pole)	Crimp/Solder	.750	4/0-250MCM	3/0-250MCM
400 (Std. 3 & 4-pole)	Crimp/Solder	.840	250-500MCM	250-400MCM
400 (Lg. 3 & 4-pole)	Crimp/Solder	1.25	500-1000MCM	400-750MCM

^{§150}A, 200A and 400A rated units are for service disconnect use only.
† Horsepower ratings are based on Eaton's Crouse-Hinds testing in which locked-rotor currents were interrupted by withdrawing the plug from the receptacle. It is highly recommended, however, that such use be limited to emergency conditions only, and that a horsepower rated switch be used for motor disconnect

^{*}This guide is for reference only. Consult your local electrical codes before installation.

Each and Eaton's Crouse-Hinds does not recommend our plug and receptacle be used for disconnect under load.

^{**}Smaller sizes may be used with well reducers – information available upon request. ‡Do not use wire size smaller than minimum size recommended.

Cat. #

ARE2211 ARE2271

Arktite® Heavy Duty Circuit Breaking Receptacles, Plugs and Connectors

20 A, 600 VAC/250 VDC, 50** - 400 hertz





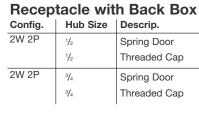












2W 2P 3/4 Spring Door ARE2212 3/4 Threaded Cap ARE2272 Receptacle

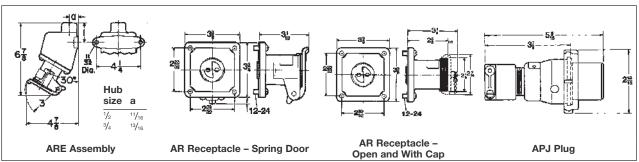
Config. Descrip. Cat. # 2W 2P Spring Door AR221 Threaded Cap AR227

Plug			
Config.	Cable Dia.	Descrip.	Cat. #
2W 2P	.250500	Fastening Ring	APJ2271
	.250–.500	Without Fastening Ring	APJ2251
2W 2P	.500–.875	Fastening Ring	APJ2273
	.500–.875	Without Fastening Ring	APJ2253

Connector

Config.	Cable Dia.	Descrip.	Cat. #
2W 2P	.250–.500	Connector	APR2251
	.500–.850	Connector	APR2253

Dimensions In Inches:



Note: For listing of additional back boxes, see page 1333.

1P Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings

30 A, 600 VAC/250 VDC, 50† - 400 hertz

Ordering Information:



Receptacle Assembly



Receptacle



Mating Plug



Mating Connector

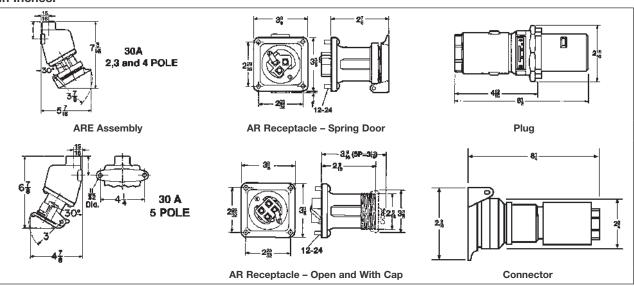
Receptacle Housings Only

Mating APJ Plugs†	
	<u></u>

Mating APR Connectors

				<u>'</u>				
Description	Hub Size (In.)	Spring Door Cat. #	Spring Door Cat. #	Threaded Cap Only Cat. #	Cat. #	Cable Dia.	Cat. #	Cable Dia.
Style 1								
2-wire, 2-pole	1/ ₂ 3/ ₄	ARE3211 ARE3212	AR321	AR327	APJ3275	0.39 to 1.20	APR3255	0.39 to 1.20
3-wire, 3-pole	³ / ₄ 1	ARE3312 ARE3313	AR331	AR337	APJ3375	0.39 to 1.20	APR3355	0.39 to 1.20
4-wire, 4-pole	³ / ₄ 1	ARE3412 ARE3413	AR341	AR347	APJ3475	0.39 to 1.20	APR3455	0.87 to 1.20
5-wire, 5-pole	1	ARE3513	AR351		APJ3573	.500 to .875	APR3553	.500 to .875
Style 2								
2-wire, 3-pole	³ / ₄ 1	ARE3322 ARE3323	AR332	AR338	APJ3385	0.39 to 1.20	APR3365	0.39 to 1.20
3-wire, 4-pole	³ / ₄ 1	ARE3422 ARE3423	AR342	AR348	APJ3485	0.39 to 1.20	APR3465	0.39 to 1.20
4-wire, 5-pole	1	ARE3523	AR352		APJ3583 APJ3585	.500 to .875 .875 to 1.375	APR3563 APR3565	.500 to .875 .875 to 1.375

Dimensions In Inches:



30 A, 600 VAC/250 VDC, 50† - 400 hertz

Plug Closure Caps:

Applications:

CPK caps for Arktite plugs are used:

- Where portable equipment is on a standby basis and plugs are not in use
- To effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- With 30, 60, 100, 150 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing



Ordering Information:

Config.	Cat. #
2P & 3P & 4P	CPK13
5P	CPK32

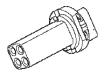
Standard Materials:

• Copper-free aluminum

Standard Finishes:

Natural

Replacement Parts:









			_	
Config.	Receptacle Interior	Plug Interior	Spring Door	Screw Cap
2W 2P	ATP275	ATP270		
2W 3P	ATP278	ATP273		
3W 3P	ATP276	ATP271	QE50	QE13
3W 4P	ATP279	ATP274		
4W 4P	ATP277	ATP272		
4W 5P	ATP125	ATP109	NI/A	NI/A
5W 5P	ATP94	ATP73	N/A	N/A

Replacement Pin & Sleeve Contacts:

Description	Recep	Plug
Available as a kit only. 5 phase contacts & 1 ground contact included.	AR30CONKIT	AP30CONKIT

1P Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings

60 A, 600 VAC/250 VDC, 50⁺ - 400 hertz

Ordering Information:











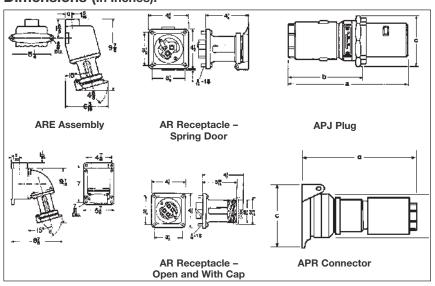
Receptacle Assembly

Receptacle
Receptacle Housi

Mating Mating Connector

		AJ Back Boxe Angle Adapters	-	With ARE Back Boxes	Receptacle	e Housing Only		
Description	Hub Size (In.)	Spring Door Cat. #	Threaded Cap Only Cat. #	Spring Door Cat. #	Spring Door Cat. #	Threaded Cap Only Cat. #	Cable Dia. Cat. #	Cat. #
Style 1								
2-wire, 2-pole	1 1½	AREA6213 AREA6214		ARE6213 ARE6214	AR621	AR627	0.50 to 1.45 APJ6275	APR6255
3-wire, 3-pole }	1 1 ¹ / ₄	AREA6313 AREA6314		ARE6313 ARE6314	AR631	AR637	0.50 to 1.45 APJ6375	APR6355
4-wire, 4-pole	1 ¹ / ₄ 1 ¹ / ₂	AREA6414 AREA6415		ARE6414 ARE6415	AR641	AR647	0.50 to 1.45 APJ6475	APR6455
5-wire, 5-pole	1 1/ ₄ 1 1/ ₂		AREA6574 AREA6575			AR657	0.50 to 1.45 APJ6575	
Style 2								
2-wire, 3-pole	1 1½	AREA6323 AREA6324		ARE6323 ARE6324	AR632	AR638	0.50 to 1.45 APJ6385	APR6365
3-wire, 4-pole	1 1/4 1 1/2	AREA6424 AREA6425		ARE6424 ARE6425	AR642	AR648	0.50 to 1.45 APJ6485	APR6465
4-wire, }	11/ ₄ 11/ ₂		AREA6584 AREA6585			AR658	0.75 to 1.45 APJ6585	APR6565

Dimensions (In Inches):



	Plug			Connector		
Config.	а	b	С	а	b	С
2P or 3P	81/2	5³/ ₄	35/8	61/2	35/8	215/16
4P	81/2	513/16	33/4	81/4	35/8	215/16
5P	9	63/16	47/16	81/4	35/8	31/4

Ordering Information:

Cat. #

CPK32

CPK34

Config.

2P & 3P

4P

60 A, 600 VAC/250 VDC, 50† - 400 hertz

Plug Closure Caps:

Applications:

CPK caps for Arktite plugs are used:

- Where portable equipment is on a standby basis and plugs are not in use
- To effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- With 30, 60, 100, 150 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing

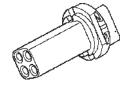
Standard Materials:

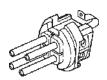
• Copper-free aluminum

Standard Finishes:

Natural

Replacement Parts:









Config.	Receptacle Interior	Plug Interior	Spring Door	Screw Cap
2W 2P	ATP295	ATP290		
2W 3P	ATP298	ATP293	QE51	QE32
3W 3P	ATP296	ATP291		
3W 4P	ATP299	ATP294	0550	0504
4W 4P	ATP297	ATP292	QE52	QE34
4W 5P	ATP385	ATP387	N/A	
5W 5P	ATP384	ATP386	N/A	AR:11393B

Replacement Pin & Sleeve Contacts:

Description	Recep	Plug
Available as a kit only. 5 phase contacts & 1 ground contact included.	AR60CONKIT	AP60CONKIT

Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies and Housings 1P

100 A, 600 VAC/250 VDC, 50† - 400 hertz 150 A, 600 VAC/250 VDC, 50† - 400 hertz

Ordering Information:



Receptacle Assembly



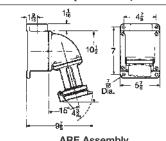
Receptacle





			Receptad	cle Housings Only	Plu	ıg	Connector
Description	Hub Size (In.)	Spring Door Cat. #	Spring Door Cat. #	Threaded Cap Only Cat. #	Cable Dia.	Cat. #	Cat. #
100A - Style	e 1						
2-wire, 2-pole	1 1/ ₄ 1 1/ ₂	AREA10214 AREA10215	AR1021	AR1027	0.875 to 1.70	APJ10277	APR10257
3-wire, 3-pole	1 1/ ₄ 1 1/ ₂	AREA10314 AREA10315	AR1031	AR1037	0.875 to 1.70	APJ10377	APR10357
4-wire, 4-pole	1½ 2	AREA10415 AREA10416	AR1041	AR1047	0.875 to 1.70	APJ10477	APR10457
100 A - Styl	le 2						
2-wire, 3-pole	1 ¹ / ₄ 1 ¹ / ₂	AREA10324 AREA10325	AR1032	AR1038	0.875 to 1.70	APJ10387	APR10367
3-wire, 4-pole	1½ 2	AREA10425 AREA10426	AR1042	AR1048	0.875 to 1.70	APJ10487	APR10467
150 A - Styl 3-wire, 4-pole	le 2 *		AR1542	AR1548	0.875 to 1.70	APJ15487	

Dimensions (In Inches):



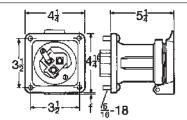
	ARE Assembly		
No. Poles	Housing	С	
2 or 3	open	33/16	

with cap

with cap

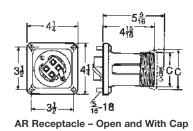
311/16

No. Poles	b	С
3	33/8	33/16
4	31/2	37/16



AR Receptacle - Spring Door

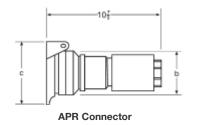
No. Poles	f
2 or 3	9/32
4	13/32



) e
_b101	

APJ Plug

No. Poles	D	С	
3	69/16	33/4	_
4	65/8	41/8	



[†] For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

* For 150A - Consult factory for additional options and configurations. Consult factory for certifications information.

100 A, 600 VAC/250 VDC, 50† - 400 hertz 150 A, 600 VAC/250 VDC, 50† - 400 hertz

Plug Closure Caps:

Applications:

CPK caps for Arktite plugs are used:

- Where portable equipment is on a standby basis and plugs are not in use
- To effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- With 30, 60, 100, 150 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing

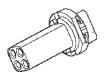


• Copper-free aluminum

Standard Finishes:

Natural

Replacement Parts:





Ordering Information

Config.

2P & 3P



Cat. #

CPK62 CPK64



	Receptacle Interior	Plug Interior	Spring Door	Screw Cap
Config.	Receptacle Interior	Plug Interior	Spring Door	Screw Cap
2W 2P	ATP315	ATP310		
2W 3P	ATP318	ATP313	QE53 QE62	
3W 3P	ATP316	ATP311		
3W 4P	ATP319	ATP314	0554	OE64
4W 4P	ATP317	ATP312	QE54 QE64	
4W 5P	N/A	N/A	NI/A	N/A
5W 5P	N/A	N/A	N/A	N/A

Replacement Pin & Sleeve Contacts:

Description	Recep	Plug
Available as a kit only. 5 phase contacts & 1 ground contact included.	AR100CONKIT	AP100CONKIT

1P Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies

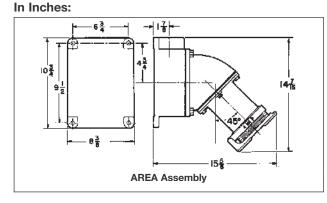
200 A, 600 VAC/250 VDC, 50† - 400 hertz

See pages 1312–1316 for general Application, Features, Grounding, Standard Materials, Standard Finishes, Options, Accessories, Compliances, Electrical Rating Ranges, and Wire Sizes.

Features:

- Grounding contact wire terminators will accommodate ground wire of same size as phase wire
- Spring band contact design provides multiple points of electrical contact. Improves electrical reliability and significantly reduces effort required for insertion and withdrawal
- Crimp/solder and mechanical lug type contacts are available
- Large wire wells are available for "extra flexible" wire
- Larger wire well size connectors will interchange with connectors of other wire well size of same amperage and contact configuration
- Mechanical lug connectors will interchange with crimp/solder connectors of the same amperage and contact configuration
- Self-closing spring doors on receptacles and cord connectors provide environmental sealing
- Threaded nuts provide positive plug retention
- Two piece plug and cord connector design provide easy installation
- 1. For listing of additional back boxes, see page 1333.
- 2. S22 suffix for reverse interiors is available from factory only. Field conversion cannot be done.
- 3. Replacement interiors for standard units vs. S22 units vary in length. Specify the unit type when ordering parts.

Dimensions



Plug Closure Caps:

Applications:

CPK caps for Arktite plugs are used:

- Where portable equipment is on a standby basis and plugs are not in use
- To effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion
- With 30, 60, 100, 150 and 200 ampere plugs with fastening ring and standard 200 ampere plugs for the clamp door housing



Ordering Information:

Config.	Cat. #
4P	CPK104

Standard Materials:

Copper-free aluminum

Standard Finishes:

Natural

Wire Mesh Grips: Applications:



Wire mesh grips are used:

- To provide secure cable termination
- To extend cable life
- With 20, 200 and 400 ampere plugs

Features:

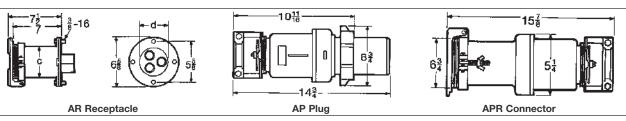
- Eliminate sharp radius of cable bend at the point where cable enters plug, thereby reducing cable failure
- Absorb longitudinal stresses placed on the point of termination caused by pulling the cable
- Gripping action increases in direct proportion to amount of tension applied to cable

Standard Material and Finishes:

Stainless steel wire braid - Natural

Ordering Information:

Plug Cable Range	Grip Range	Nominal Grip Length-Inches	Grip Cat. #
1.375 to 1.875	1.375 to 1.625	-	K163
	1.625 to 1.875	11	K188
1.875 to 2.500	1.875 to 2.000	10	K200
1.075 to 2.500	2 000 to 2 250	113/4	K225



200 A, 600 VAC/250 VDC, 50+ - 400 hertz

Ordering Information - Mechanical Lug Termination:



Receptacle Assembly Receptacle Assembly with AJ Back Boxes and

Receptacle w/ Mechanical Lug



Mating Plug



Mating Connector

Angle Adapters	_		Receptacle Hou	Receptacle Housings only		
Description	Hub Size (In.)	Cat. #	Cat. #	Cable Dia.	Plug Cat. #	Connector Cat. #
Style 1 – Wire Well Takes 0.687" Maximum Conductor Size						
3-wire, 3-pole	1½ 2 2½	AREAL20315 AREAL20316 AREAL20317	ARL2031	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	APL20355 APL20357 APL20358	APRL20315 APRL20317 APRL20318
4-wire, 4-pole	2 2½	AREAL20416 AREAL20417	ARL2041	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500 2.500 to 3.000	APL20455 APL20457 APL20458 APL20451	APRL20415 APRL20417 APRL20418 APRL204113
Style 2 - Wire We	II Takes 0.6	87" Maximum Cond	luctor Size			
2-wire, 3-pole	1½ 2 2½	AREAL20325 AREAL20326 AREAL20327	ARL2032	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	APL20365 APL20367 APL20368	APRL20325 APRL20327 APRL20328
3-wire, 4-pole	1½ 2 2½	AREAL20425 AREAL20426 AREAL20427	ARL2042	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	APL20465 APL20467 APL20468	APRL20425 APRL20427 APRL20428

Ordering Information - Crimp/Solder Termination:

Receptable Assembly with AJ Back Boxes and

Angle Adapters Receptacle Housings only

Description	Size (In.)	Cat. #	Cat. #	Cable Dia.	Plug Cat. #	Connector Cat. #
Style 1 - Wire V		6" Maximum Condi	uctor Size			
3-wire, 3-pole	1½ 2 2½	AREA20315 AREA20316 AREA20317	AR2031	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	AP20355 AP20357 AP20358	APR20315 APR20317 APR20318
4-wire, 4-pole	2 2¹/₂	AREA20416 AREA20417	AR2041	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	AP20455 AP20457 AP20458	APR20415 APR20417 APR20418
Style 1 - Wire V		5" Maximum Condi	uctor Size			
3-wire, 3-pole	1½ 2 2½	AREA203125 AREA203126 AREA203127	AR20312	1.375 to 1.875 1.875 to 2.500	AP203511 AP203512	APR203111 APR203112
4-wire, 4-pole	2 2½	AREA204126 AREA204127	AR20412	1.375 to 1.875 1.875 to 2.500 2.500 to 3.000	AP204511 AP204512 AP204513	APR204111 APR204112 APR204113
Style 2 - Wire V	Well Takes 0.5	6" Maximum Condi	uctor Size			•
2-wire, 3-pole	1½ 2 2½	AREA20325 AREA20326 AREA20327	AR2032	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	AP20365 AP20367 AP20368	APR20325 APR20327 APR20328
3-wire, 4-pole	1½ 2 2½	AREA20425 AREA20426 AREA20427	AR2042	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	AP20465 AP20467 AP20468	APR20425 APR20427 APR20428
Style 2 - Wire V	Well Takes 0.7	5" Maximum Condi	uctor Size			
2-wire, 3-pole	1½ 2 2½	AREA203225 AREA203226 AREA203227	AR20322	0.875 to 1.375 1.375 to 1.875 1.875 to 2.500	AP203610 AP203611 AP203612	APR203210 APR203211 APR203212
3-wire, 4-pole	1½ 2 2½	AREA204225 AREA204226 AREA204227	AR20422	1.375 to 1.875 1.875 to 2.500	AP204611 AP204612	APR204211 APR204212

AREA204227 \dagger For use on system less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Crouse-Hinds

1P Arktite® Heavy Duty Circuit Breaking Receptacle Assemblies

200 A, 600 VAC/250 VDC, 50† - 400 hertz

200A Replacement Parts











Receptacle Interior		Plug I	nterior	Brass Retaining Shoe		
Config.	.56 wire well Cat. #	.75 wire well Cat. #	.56 wire well Cat. #	.75 wire well Cat. #	.56 wire well Cat. #	.75 wire well Cat. #
200A Stand	lard and S4					
2W 3P	ATP401	ATP402	ATP433	ATP434	0490335	0490335
3W 3P	ATP397	ATP398	ATP429	ATP430	0490327	0490328
3W 4P	ATP403	ATP404	ATP435	ATP436	0490337	0490337
4W 4P	ATP399	ATP400	ATP431	ATP432	0490331	0490332
200A ST22	and S4 S22		1			1
2W 3P	ATP417	ATP418	ATP449	ATP450	0490335	0490335
3W 3P	ATP413	ATP414	ATP445	ATP446	0490327	0490328
3W 4P	ATP419	ATP420	ATP451	ATP452	0490337	0490337
4W 4P	ATP415	ATP416	ATP447	ATP448	0490331	0490332







Cord Grip Assembly

Cord Diameter Range

.875 – 1.375 AP2 KIT1 M80 1.375 – 1.875 AP2 KIT2 M80 1.875 – 2.500 AP2 KIT3 M80



Plug Clamp Nut

2W 3P 3W 3P AP:0401965 2W 3P 3W 4P AP:0401964

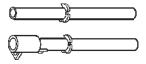


Rec Spring Door

AR:0401502-2 AR:0401502-1

Replacement Pin & Sleeve Contacts:

	Rece	ptacle	PI	ug
Туре	Cat. #	Cat. #	Cat. #	Cat. #
200A Standard & S4	.56 wire well	.75 wire well	.56 wire well	.75 wire well
Phase Contact	0490339	0490340	0490319	0490320
Ground Contact	0490343	0490344	0490323	0490324
200A S22 & S4 S22	.56 wire well	.75 wire well	.56 wire well	.75 wire well
Phase Contact	0490351	0490352	0490355T	0490356
Ground Contact	0490347	0490348	0490359	0490360
200A Mechanical Lug	.687 wire well		.687 wire well	
Phase Contact	ARL:0403688 1		APL:0403678 1	
Ground Contact	ARL:0403687 1		APL:0403677 1	





Arktite® Heavy Duty Receptacle Assemblies

400 A, 600 VAC/250 VDC, 50-400 hertz

Features:

- Grounding contact wire terminators will accommodate ground wire of same size as phase wire
- Spring band contact design provides multiple points of electrical contact. Improves electrical reliability and significantly reduces effort required for insertion and withdrawal
- Crimp/solder type contacts are standard
- Large wire wells are available for "extra flexible" wire
- Larger wire well size connectors will interchange with connectors of other wire well size of same amperage and contact configuration
- Self-closing spring doors on receptacles and cord connectors provide environmental sealing
- Threaded nuts provide positive plug retention
- Two piece plug and cord connector design provide easy installation
- For disconnect use only not for current interrupting
- 1. For listing of additional back boxes, see page 1333. Illustration shows 3 blank plates and 1 hub plate.
- 2. S22 suffix for reverse interiors is available from factory only. Field conversion cannot be done.
- 3. Replacement interiors for standard units vs. S22 units vary in length. Specify the unit type when ordering parts.

Wire Mesh Grips: Applications:



Wire mesh grips are used:

- To provide secure cable termination
- To extend cable life
- With 20, 200 and 400 ampere plugs

Features:

- Eliminate sharp radius of cable bend at the point where cable enters plug, thereby reducing cable failure
- Absorb longitudinal stresses placed on the point of termination caused by pulling the cable
- Gripping action increases in direct proportion to amount of tension applied to cable

Standard Material and Finishes:

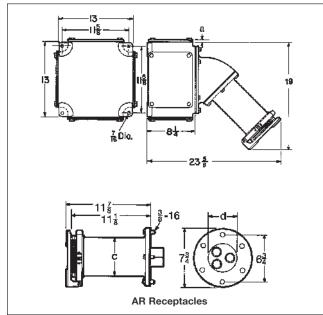
• Stainless steel wire braid - Natural

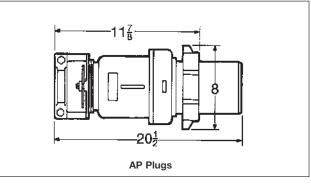
Ordering Information:

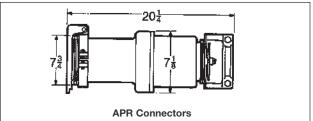
Plug Cable Range	Grip Range	Nominal Grip Length–Inches	Grip Cat. #
1.375 to 1.875	1.375 to 1.625 1.625 to 1.875	-	K163 K188
1.875 to 2.500	1.875 to 2.000 2.000 to 2.250	10 11 ³ / ₄	K200 K225

Dimensions

In Inches:







#

AREX Assemblies

Description	а	No. Poles	С	d
With blank hub plate With hub plate max.	⁵ / ₁₆	3	5 ³ / ₁₆	4 ³ / ₁₆
	4 ⁵ / ₈	4	5 ¹³ / ₁₆	4 ¹¹ / ₁₆

1P Arktite® Heavy Duty Receptacle Assemblies

400 A, 600 VAC/250 VDC, 50-400 hertz

Ordering Information:









Receptacle Assembly		Receptacle	Mating	Mating Connector		
With AJ Back E	Boxes and An	gle Adapters‡	Receptacle Housings only			
Description	Hub Size (In.)	Spring Door Cover Cat. #	Spring Door Cat. #	Cable Dia.	Plug Cat. #	Connector Cat. #
Style 1 - Wi	re Well Tak	es .84" Maximun	n Conductor Size			
3-wire, 3-pole	2 ¹ / ₂ 3	AREX40317 AREX40318	AR4031	1.375 to 1.875 1.875 to 2.500	AP40357 AP40358	APR40317 APR40318
4-wire, 4-pole	2 ¹ / ₂ 3	AREX40417 AREX40418	AR4041	1.375 to 1.875 1.875 to 2.500	AP40457 AP40458	APR40417 APR40418
Style 1 - Wi	re Well Tak	es 1.25" Maximu	ım Conductor Size			
3-wire, 3-pole	3 3½ 4	AREX403128 AREX403129 AREX4031210	AR40312	2.500 to 3.000 3.000 to 3.800	AP403510 AP403512	APR403110 APR403112
4-wire, 4-pole	4 5	AREX4041210 AREX4041212	AR40412	2.500 to 3.000 3.000 to 3.800	AP404510 AP404512	APR404110 APR404112
Style 2 - Wi	re Well Tak	es .84" Maximun	n Conductor Size			
2-wire, 3-pole	2 2½ 3	AREX40326 AREX40327 AREX40328	AR4032	1.375 to 1.875 1.875 to 2.500	AP40367 AP40368	APR40327 APR40328
3-wire, 4-pole	2 ¹ / ₂ 3	AREX40427 AREX40428	AR4042	1.375 to 1.875 1.875 to 2.500	AP40467 AP40468	APR40427 APR40428
Style 2 - Wi	re Well Tak	es 1.25" Maximu	ım Conductor Size			
2-wire, 3-pole	3 3½ 4	AREX403228 AREX403229 AREX4032210	AR40322	2.500 to 3.000 3.000 to 3.500	AP403610 AP403612	APR403210 APR403212
3-wire, 4-pole	4 5	AREX4042210 AREX4042212	AR40422	2.500 to 3.000 3.000 to 3.500	AP404610 AP404612	APR404210 APR404212

Non-metallic Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

Made of Krydon® Material, 600 VAC/250 VDC, 50-400 hertz

Applications:

Arktite circuit breaking plugs, receptacles, cord connectors and motor plugs

- To supply power to portable electrical devices such as welders, motors, pumps, conveyors and other similar equipment
- Where electrical loads must be quickly disconnected from power sources
- In areas where severe corrosion hose down, moisture, dirt and dust are problems
- Indoors and outdoors in non-hazardous areas of chemical plants, sewage treatment facilities, cement plants, pulp and paper plants, food processing plants and other similar industries

Features:

- Plugs, receptacles, cord connectors, and motor plugs are molded of Krydon fiberglass-reinforced polyester material which is highly resistant to corrosion, heat, weathering and physical abuse
- ♠ Molded of Krydon fiberglass-reinforced non-metallic material which is highly resistant to corrosion, heat, weathering, and physical abuse
- Grounding contacts that make-first and break-last in the unlikely event of a keyway failure
- Split-pin contact design provides 360° of electrical contact
- 4 Spring door provides environmental protection of receptacle (NEMA 4)
- 6 Keyed for a perfect match in the molded one-piece insulator housing
- 6 Sealing gaskets at all critical points inside Arktite plugs and receptacles protect against dust, dirt, mud, water, and corrosive contaminants
- Plugs can be used in both hazardous and non-hazardous areas when used with appropriately rated Arktite receptacles
- Total interchangeability with all existing Arktite products for comparable ratings and configurations
- A unique patented strain relief design prevents stress from reaching wire terminations at the contacts

Certifications and Compliances:

- UL Standard: 1682
- UL 1010 hazardous locations (NPJ plug only)
- · Wet and damp locations, watertight
- CSA Standard C22.2 No. 182.1



Grounding:

- NPJ plugs are Style 2, which includes a grounding conductor in the flexible cord or cable that is electrically connected to the extra (grounding) pole.
- NR receptacles are Style 2, in which the ground connection is made before line and load poles engage, and is broken after line and load poles disengage.
- The National Electrical Code® and Canadian Electrical Code requires that under conditions favorable to corrosion, the grounding conductor for enclosures and equipment be of copper or other corrosion-resistant material in alternating current systems. This necessitates running another conductor, usually of copper, back to the common grounding electrode. This may be run through the conduit containing the circuit conductors. At the receptacle, this grounding conductor should be connected to the extra (grounding) pole by the pressure connector provided for that purpose. Where such an extra ground conductor is required, Style 2 receptacles should be used.

Interchangeability of Plugs With Other Non-hazardous and Hazardous Location Receptacles:

- Plugs listed for use with NRE/NREA assemblies are standard NPJ Arktite plugs. Other standard APJ and CPH plugs of the same rating, style and number of poles may be used with NR receptacles, as well as with AR and AREA, receptacles listed in Section 1P with DR receptacles listed in Section 2P, with DBR, NBR, NSR, WSR, CSR, WSQC, and WSRD receptacles listed in Section 3P and with FSQ, EPC, FSQC, W2SR, C2SR and EPCB receptacles listed in Section 4P.
- Portable equipment, suitable for locations and equipped with the proper NPJ plug, can be used with nonhazardous AR receptacles; with DBR and WSR interlocked receptacles located in non-hazardous locations: with EPC, EPCB and FSQC receptacles for Class I, Groups B, C, D hazardous locations; with DR and DBR receptacles for Class II, Groups F, G hazardous locations; and with NBR/NSR, CSR interlocked receptacles for hose down and corrosive locations.

Standard Materials:

- Housing, interiors, spring doors, clamping rings - Krydon fiberglassreinforced polyester material
- Gaskets and o-rings neoprene
- Cable clamping basket nylon
- Contacts pressure brass; crimp/solder - leaded brass
- Snap-on cap molded elastomer
- Back boxes copper-free aluminum

Standard Finishes:

- Krydon material natural (gray)
- Neoprene natural
- Elastomer natural
- Brass natural
- Leaded red brass electro-tin-plated
- Aluminum natural
- Stainless steel natural

Options:

Description

Suffix 📆

 Alternate polarization (4-pole plugs and receptacles only) receptacle interior rotated 221/2 to right and plug changed to match.....

Crimp/solder terminals......

Corro-free™ epoxy powder coat on back boxes and angle adapters..... on request

§Wet and damp locations when used with spring door or snap-on cap, watertight when used with QE threaded cap.

Non-metallic Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

Watertight§ Corrosion-Resistant NEMA 4X

Made of Krydon® Material, 30 A, 60 A and 100 A 600 VAC/250 VDC, 50 ■ - 400 hertz

Ordering Information:













		Receptacle Assembly		Recepta	icle	Mating Plugs	Mating Connectors	Motor Plugs
Amps	Description	Hub Size (In.)	Snap-on Cap/ Spring Door Cat. #†	Snap-on Cap/ Spring Door Cat. #†	Cord Dia.	Plug Cat. #	Cord Connector Cat. #	Motor Plug Cat. #
00	2-wire, 3-pole	³ / ₄	NRE3322 NRE3323	NR332	0.55–0.70 0.70–0.85	NPJ3383 NPJ3384	NPR3363 NPR3364	NPQ338
30	3-wire, 4-pole	³ / ₄ 1	NRE3422 NRE3423	NR342	0.55–0.70 0.70–0.85	NPJ3483 NPJ3484	NPR3463 NPR3464	NPQ348
00	2-wire, 3-pole	1 1½	NRE6323 NRE6324	NR632	0.75–1.07 1.07–1.35	NPJ6384 NPJ6385	NPR6364 NPR6365	NPQ638
60	3-wire, 4-pole	1 ¹ / ₄ 1 ¹ / ₂	NRE6424 NRE6425	NR642	0.75–1.07 1.07–1.35	NPJ6484 NPJ6485	NPR6464 NPR6465	NPQ648
100	2-wire, 3-pole	1 ¹ / ₄ 1 ¹ / ₂	NREA10324‡ NREA10325‡	NR1032	0.93-1.21 1.21-1.50	NPJ10386 NPJ10387	NPR10366 NPR10367	NPQ1038
100	3-wire, 4-pole	1½ 2	NREA10425‡ NREA10426‡	NR1042	0.93-1.21 1.21-1.50	NPJ10486 NPJ10487	NPR10466 NPR10467	NPQ1048

[■] For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only. §Wet and damp locations when used with spring door or snap-on cap, watertight when used with QE threaded cap. †Krydon Arktite Receptacles are supplied with both a spring door and snap-on cap. ‡AJ back boxes are square, making it possible to install with hub in several positions.

Non-metallic Arktite® Heavy Duty Circuit Breaking Plugs and Receptacles

Made of Krydon® Material, 30 A, 60 A and 100 A 600 VAC/250 VDC, 50 = - 400 hertz

Dimensions

In Inches:

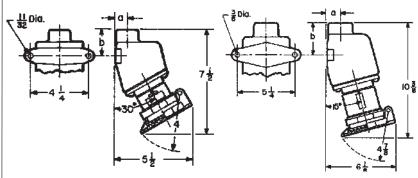


Fig. 1 - 30 A Receptacle Assemblies

Fig. 2 - 60 A Receptacle Assemblies

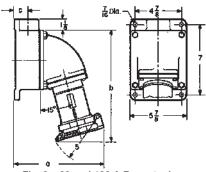


Fig. 3 - 60 and 100 A Receptacle **Assemblies**

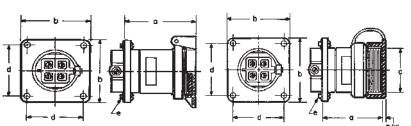


Fig. 4 - Spring Door Housings

Fig. 5 - Housings with Cap

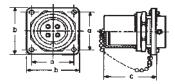


Fig. 6 - NPQ Motor Plugs

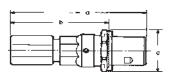


Fig. 7 - NPJ Plugs

NRE 30 and 60 A Assemblies - Fig. 1 and 2

	Dimen	sion a	Dimension b		
Hub Size	30 A	60 A	30 A	60 A	
3/4	¹³ / ₁₆		17/8		
1	15/16	15/16	2	29/16	
11/4		13/16		25/8	
11/2		1 5/ ₁₆		211/16	

NREA 60 and 100 A Assemblies - Fig. 3

	60 A Hub Size	100 A Hul	Size
Dim.	1, 11/4, 11/2	11/4, 11/2	2
а	9	91/4	913/16
b	11	12	12
С	1 15/16	1 %16	1 9/ ₁₆

Housings - Fig. 4 and 5

Amps	No. Poles	Housing	а	b	С	d	е
30	3 or 4 3 or 4	Spring Door Open	3 ¹ / ₄ 2 ¹³ / ₁₆	3¾ 3¾	_ 2º/ ₁₆	2 ³ / ₄ 2 ³ / ₄	12–24 12–24
60	3 4 3 4	Spring Door Spring Door Open Open	4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₁₆ 4 ¹ / ₁₆	4 ¹ / ₄ 4 ¹ / ₄ 4 ¹ / ₄	_ 	3 ¹ / ₂ 3 ¹ / ₂ 3 ¹ / ₂	⁵ / ₁₆ -18 ⁵ / ₁₆ -18 ⁵ / ₁₆ -18
100	3 4 3 4	Spring Door Spring Door Open Open	5 ³ / ₄ 5 ³ / ₄ 5 ⁵ / ₁₆ 5 ⁵ / ₁₆	4 ¹ / ₄ 4 ¹ / ₄ 4 ¹ / ₄	- 3 ³ / ₁₆ 3 ⁷ / ₁₆	3½ 3½ 3½ 3½ 3½	⁵ / ₁₆ -18 ⁵ / ₁₆ -18 ⁵ / ₁₆ -18

[■] For use on systems less than 60 hertz the receptacles, plugs and disconnectors are for disconnect use only.

Fig. 8 - NPR Cord Connectors

NPQ Motor Plugs - Fig. 6			
Amps/Poles	а	b	С
30 / 3 or 4	23/4	33/8	215/16
60 / 3 or 4	31/2	$4^{1}/_{4}$	45/16
100 / 3 or 4	31/2	41/4	57/16
NPJ Plugs - F	ig. 7		
Amps/Poles	а	b	С
30 / 3 or 4	81/2	7	33/16
60 / 3	91/2	613/16	35/8
60 / 4	91/2	613/16	4
100 / 3	111/4	73/4	4
100 / 4	111/4	73/4	41/4
NPR Cord Connectors - Fig. 8			
Amps/Poles	а	b	С
30 / 3 or 4	87/。	29/40	25/6

215/16

215/16 35/16

31/4

100 / 4

1P

AR Back Boxes and Accessories for 20, 30, & 60 A Receptacle Housings

ARE



Hub	20 / 30 A	60 A
Size	Cat. #	Cat. #
1/ ₂ 3/ ₄ 1 1 ¹ / ₄ 1 ¹ / ₂	ARE13 ARE23 ARE33	ARE36 ARE46 ARE56

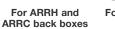
ARRC



Hub Size	20 / 30 A Cat. #	60 A Cat. #
1/2	ARRC13	
3/4	ARRC23	
1	ARRC33	ARRC36
11/4		ARRC46
11/2		ARRC56

AR 15° Angle Adapter







For steel panel or cabinet

Mounts On	Takes AR Receptacle Housings	Cat. #
ARRH and ARRC back boxes	20 and 30 amp.	AR30
ARRH and ARRC back boxes	60 amp.	AR60
Steel panel or cabinet	60, 100 and 150 amp.	AR610

ARRH



Hub Size	20 / 30 A Cat. #	60 A Cat. #
1/2	ARRH13	
3/4	ARRH23	
1	ARRH33	ARRH36
11/4		ARRH46
11/2		ARRH56

ARD



Hub Size	20 / 30 A Cat. #	60 A Cat. #
1/2	ARD13	
3/4	ARD23	
1	ARD33	ARD36
1 1/4		ARD46
1 1/2		ARD56

Spring Door Assembly



Used With	Cat. #
30 amp, 2, 3 & 4-pole	QE50
60 amp, 2 & 3-pole	QE51
60 amp, 4-pole	QE52
100 and 150 amp, 2 & 3-pole	QE53
100 and 150 amp. 4-pole	QE54

ARJ



Hub Size	20 / 30 A Cat. #	60 A Cat. #
1/2	ARJ13	
3/4	ARJ23	
1	ARJ33	ARJ36
11/4		ARJ46
11/2		ARJ56

ARJG



Hub Size	20 / 30 A Cat. #	60 A Cat. #
1/2	ARJG13	
3/4	ARJG23	
1	ARJG33	ARJG36
11/4		ARJG46
11/2		ARJG56

Cap and Chain



Used With	Cat. #
30 amp, 2, 3 & 4-pole	QE13
60 amp, 2 & 3-pole	QE32
60 amp, 4-pole	QE34
100 and 150 amp, 2 & 3-pole	QE62
100 and 150 amp, 4-pole	QE64

AJ and AJC Back Boxes with Angle Adapters for 60, 100, 200 & 400 A Receptacle Housings **AJX Assemblies and Component Parts For 200** and 400 A Receptacle Housings



AJ Back Box with 60 / 100 / 150 A **Angle Adapter**



AJC Back Box with 60 / 100 / 150 A **AJA Angle Adapter**



AJ Back Box with 200 / 400 A **Angle Adapter**



AJC Back Box with 200 A **Angle Adapter**

AJ and AJC Back Boxes[†]

		60, 1	00 & 150 A	:	200 A	,	400 A
Hub Size	Туре	Box Only	Box & Adapter Assembly	Box Only	Box & Adapter Assembly	Box Only	Box & Adapter Assembly
1"	One Hub Feed Thru	AJ56* AJC56*	AJ37 AJC37				
11/4"	One Hub Feed Thru	AJ56* AJC56*	AJ47 AJC47				
11/2"	One Hub Feed Thru	AJ56* AJC56*	AJ57 AJC57	AJ71*	AJ58		
2"	One Hub Feed Thru	AJ66 AJC66	AJ67 AJC67	AJ71*	AJ68	AJ82*	AJ69‡
21/2"	One Hub Feed Thru			AJ71* AJC71	AJ78 AJC78	AJ82*	AJ79‡
3"	One Hub Feed Thru					AJ82*	AJ89‡
Angle	Adapter		AJA6		AJA1		AJA2

†AJ and AJC back boxes are square, making it possible to install with hub in several positions. ‡Use AJ69, AJ79 or AJ89 for cables up to 2 – #350MCM, 3 – #300MCM or 4 – #250MCM. For larger cables, use AJX69, etc., listed under assemblies.

AJX Assemblies Back Box with Angle Adapter, 3 Blank Plates and 1 Hub Plate



Hub Size	400 A Cat. #
2	AJX69
21/2	AJX79
3	AJX89
31/2	AJX929
4	AJX9210
5	AJX9212

AJX Component Parts

For use in making up assemblies with arrangements of hub plates (4 required) other than those listed.





Dack Box	Angle Adapter
Туре	Cat. #
Back Box 400 A	AJX99
Angle Adapter 400 A	AJ245



400 A



Hub Plate Blank Plate Hub Plate Blank Plate

Size	Cat. #
2	YYP96
21/2	YYP97
3	YYP98
31/2	YYP99
4	YYP910
5	YYP9012

Hub

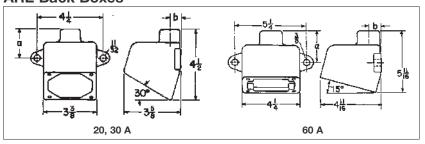
Cat. # YYP900

400 A

1P Back Boxes

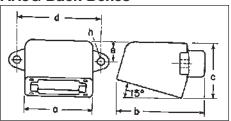
Dimensions

Dimensions (In Inches): ARE Back Boxes



Cat. #	Rating	Size	а	b
13	20, 30 A	1/2	127/32	11/16
23	20, 30 A	3/4	1 27/32	13/16
33	20, 30 A	1	1 31/32	15/16
36	60 A	1	29/16	¹⁵ / ₁₆
46	60 A	11/4	25/8	13/16
56	60 A	11/2	211/16	15/16

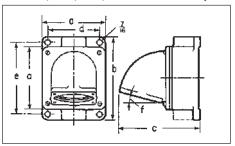
ARJG Back Boxes



Cat. #	Rating	Size	а	b	С	d	е	Dia.
13	20, 30 A	1/2	33/8	415/32	23/4	41/4	13/8	11/32
23	20, 30 A	3/4	33/8	$4^{15}/_{32}$	23/4	41/4	13/8	11/32
33	20, 30 A	1	33/8	$4^{19}/_{32}$	23/4	41/4	13/8	11/32
36	60 A	1	41/4	5 ⁵ / ₈	411/16	51/4	15/8	3/8
46	60 A	1 1/4	41/4	511/16	411/16	51/4	15/s	3/8
56	60 A	1 ½	41/4	5 ³ / ₄	$4^{11}/_{16}$	51/4	1 5/8	3/8

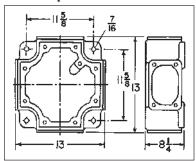
AJ and AJC

With 60, 100, 150, 200 and 400 Ampere Angle Adapters

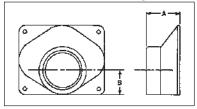


Cat. #	Rating	Size	а	b	С	d	е	f
37, 47, 57	60, 100 A	1, 11/4, 11/2	57/8	8	77/16	47/8	7	15°
67	60, 100 A	2	57/8	8	8	47/8	7	15°
58, 68, 78	200 A	11/2, 2, 21/2	8	10 ³ / ₄	97/8	63/4	91/2	45°
69, 79, 89	400 A	2, 21/2, 3	9	11 ⁵ / ₈	1113/16	$7^{3}/_{4}$	10³/ ₈	45°

AJX Back Body - 400 Amperes

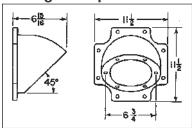


Hub Plate - 400 Amperes



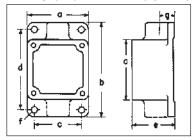
Cat. #	Hub Size	"A"	"B"
YYP96	2	33/4	1 11/16
YYP97	21/2	37/8	25/16
YYP98	3	37/8	25/16
YYP99	31/2	37/8	29/16
YYP910	4	37/8	213/16
YYP9012	5	45/8	37/16

AJ Angle Adapter



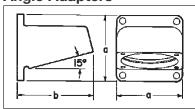
Dimensions

ARRC and ARRH Back Boxes



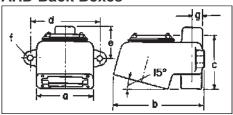
								f	
Cat. #	Rating	Size	а	b	С	d	е	Dia.	g
13	20 / 30 A	1/2	33/8	55/16	25/8	49/16	21/4	11/32	11/16
23	20 / 30 A	3/4	33/8	55/16	25/8	49/16	21/4	11/32	13/16
33	20 / 30 A	1	33/8	55/16	25/8	49/16	21/4	11/32	15/16
36	60 A	1	$4^{1}/_{4}$	61/2	31/2	53/4	31/8	7/16	1³/ ₈
46	60 A	11/4	41/4	61/2	31/2	53/4	31/8	7/16	13/8
56	60 A	1 1/2	41/4	61/2	31/2	53/4	31/8	7/16	13/8

AR30 and AR60 Angle Adapters



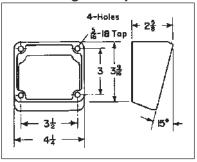
Cat. #	Rating	а	b	
AR30	20 / 30 A	33/8	41/8	
AR60	60 A	41/4	415/16	

ARD Back Boxes

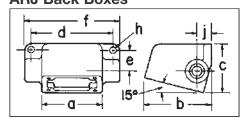


								f	
Cat. #	Rating	Size	а	b	С	d	е	Dia.	g
13	20 / 30 A	1/2	33/8	55/16	323/32	41/4	127/32	11/32	11/16
23	20 / 30 A	3/4	33/8	55/16	323/32	41/4	127/32	11/32	13/16
33	20 / 30 A	1	33/8	55/16	$3^{23}/_{32}$	41/4	127/32	11/32	15/16
36	60 A	1	41/4	71/16	5 ³ / ₄	5¹/ ₈	2 ³ / ₄	3/8	15/16
46	60 A	1 1/4	41/4	71/16	53/4	5¹/ ₈	23/4	3/8	15/16
56	60 A	11/2	41/4	71/16	5 ³ / ₄	5¹/ ₈	23/4	3/8	15/16

AR610 Angle Adapter



ARJ Back Boxes



									h	
Cat. #	Rating	Size	а	b	С	d	е	f	Dia.	j
13	20 / 30 A	1/2	33/8	35/8	23/4	45/8	17/32	55/16	11/32	15/16
23	20 / 30 A	3/4	33/8	35/8	23/4	45/8	17/32	55/16	11/32	15/16
33	20 / 30 A	1	33/8	35/8	23/4	45/8	17/32	55/16	11/32	15/16
36	60 A	1	41/4	411/16	411/16	5	123/32	6³/ ₈	3/8	1 ⁵ / ₁₆
46	60 A	11/4	41/4	411/16	411/16	5	123/32	63/8	3/8	1 5/ ₁₆
56	60 A	11/2	41/4	411/16	411/16	5	123/32	63/8	3/8	1 5/ ₁₆

1P

AR Arktite® Circuit Breaking Round Flange Receptacle Housings for Panel Mounting

30/60/100/200 A, 600 VAC/250 VDC

Applications:

 AR round flange receptacle housings are designed specifically for semi-flush mounting in sheet metal panels or cabinets.

Features:

- Back boxes are not needed for these receptacle assemblies.
- Where wiring behind a panel is exposed and subject to either mechanical injury or contact by personnel, suitable shields or guards should be provided.

Certifications and Compliances:

• UL Standard: 1682

Standard Materials:

- Receptacle housings copper-free aluminum
- Plug exteriors copper-free aluminum
- Insulation: 30, 60, 100, 200 ampere fiberglass-reinforced polyester
- Pressure and solder contacts brass
- Crimp/solder contacts leaded red brass

Standard Finishes:

- Copper-free aluminum natural
- Brass natural
- Fiberglass-reinforced polyester natural (red)
- Leaded red brass electro-tin-plate

Options:

Description	Suffix
Available with these	
assemblies are:	
Reversed interiors	S22
Special polarity	S4
See page 1315 for details.	

For general information on application, features and grounding, see pages 1312–1316.



AR Receptacle housings with round flange and threaded cap



APJ Plugs with cable grip, neoprene bushing and fastening ring



APJ Plugs with cable grip, neoprene bushing and fastening ring

AR Arktite® Circuit Breaking Round Flange Receptacle Housings for Panel Mounting

30/60/100/200 A, 600 VAC/250 VDC

Ordering Information:

Amps	Style‡	Description	Recept. Cat. #	Cable Dia.	Plug Cat. #
	1	3-wire, 3-pole*	AR6337	0.60 to 1.20	APJ3375
30		4-wire, 4-pole*	AR6347	0.60 to 1.20	APJ3475
	2	3-wire, 4-pole* }	AR6348	0.60 to 1.20	APJ3485
	1	3-wire, 3-pole* }	AR6637	0.75 to 1.45	APJ6375
60		4-wire, 4-pole*	AR6647	0.75 to 1.45	APJ6475
	2	3-wire, 4-pole* }	AR6648	0.75 to 1.45	APJ6485
	1	3-wire, 3-pole* }	AR61037	1.00 to 1.70	APJ10377
100	·	4-wire, 4-pole*	AR61047	1.00 to 1.70	APJ10477
	2	3-wire, 4-pole* }	AR61048	1.00 to 1.70	APJ10487
200	1	3-wire, 3-pole }	AR62031§	875 to 1.375 1.875 to 2.500	AP20355 AP20358
	2	2-wire, 3-pole }	AR62032§	875 to 1.375 1.875 to 2.500	AP20365 AP20368

‡Style 1 – Grounded through shell. Style 2 – Grounded through extra pole and shell.

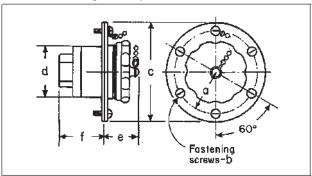
\$200 ampere size is provided with clamp cover.
*Pressure connectors are standard. Crimp/solder type terminators are optionally available for 2, 3 and 4-pole 30 ampere, 3 and 4-pole 60 ampere. For details, see table on page 1316. To specify, add the suffix "T" to the catalog number. For example:APJ3375-T (Plug)

AR6337-T (Receptacle).

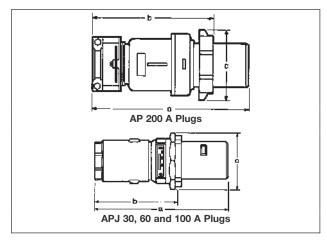
Dimensions (In Inches): AR Round Flange Receptacles

For use with APJ and AP Plugs

Weatherproof



Description	а	b	С	d	е	f
30 amp. 2, 3, 4-pole	2	12-24	43/4	27/16	15/8	21/4
60 amp. 2, 3-pole	2	12-24	$4^{3}/_{4}$	213/16	17/8	33/8
60 amp. 4-pole	2	12-24	$4^{3}/_{4}$	31/8	17/8	33/8
100 amp. 2, 3-pole	2	12-24	$4^{3}/_{4}$	31/16	17/8	49/16
100 amp. 4-pole	2	12-24	$4^{3}/_{4}$	35/16	17/8	49/16
200 amp. 3-pole	33/8	3/8-16	73/4	43/16	27/8	51/8



Amps	No. Poles	а	b	С
30	2, 3 or 4	61/2	413/16	215/16
60	2 or 3	81/2	53/4	35/8
60	4	81/2	5 ¹³ / ₁₆	33/4
100	2 or 3	10¹/ ₈	69/16	33/4
100	4	10¹/ ₈	6 ⁵ / ₈	41/8
200	3	143/4	1011/16	63/4

These dimensions are approximate and vary with cable size.

1P APQ Arktite® Circuit Breaking Motor Plugs

APJ Plugs, APR Cable Connector Receptacles 30/60/100 A, 250 VDC/600 VAC, 50† – 400 hertz

Applications:

APQ motor plugs are used:

• On portable electric equipment

Features:

- Eliminates problem of storing and protecting a long length of portable cord and plug on portable device
- Connection to fixed receptacle used as power source is made with cord sets which may be hung on wall, out of the way
- Cord sets are made up using an APR receptacle at one end and an APJ plug at the other
- Cord sets may be used singly or connected together to provide longer lengths when needed
- With spare cord sets on hand, portable equipment may be kept in service while normal cord replacement is being made
- Where design of portable equipment permits, APQ motor plugs can be attached directly to a sheet metal panel or cabinet
- May be mounted on AR and AJ back boxes for conduit connection
- See typical installation diagram on next page

Certifications and Compliances:

• UL Standards: 1682

• CSA Standard: C22.2 No. 182.1

Standard Materials:

- Motor plugs: mounting plate Feraloy®, iron alloy; protective sleeve – copper-free aluminum
- Plug and receptacle exteriors copper-free aluminum
- Back boxes copper-free aluminum
- Insulation fiberglass-reinforced polyester
- Pressure and solder contacts brass
- Crimp/solder contacts leaded red brass

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Brass natural
- Fiberglass-reinforced polyester natural (red)
- Leaded red brass electro-tin-plate

Options:



APQ Motor Plugs with square flange, gaskets, fastening ring, and exposed contacts.



APR Cable Connector Receptacles with cable grip, neoprene bushing, and protected contacts.



APJ Plugs with cable grip, neoprene bushing, exposed contacts, and fastening ring.

Cable

Ordering Information:

Amps	Style‡	Description	Plug Cat. #	Cable Dia.	Connector Receptacle Cat. #	Motor Plug Cat. #
		2-wire,* 2-pole	APJ3275	0.39 to 1.20	APR3255	APQ327
	1	3-wire,* 3-pole	APJ3375	0.39 to 1.20	APR3355	APQ337
30		4-wire,* 4 -pole	APJ3475	0.39 to 1.20	APR3455	APQ347
	2	2-wire,* 3-pole	APJ3385	0.39 to 1.20	APR3365	APQ338
	2	3-wire,* 4-pole	APJ3485	0.39 to 1.20	APR3465	APQ348
		2-wire,* 2-pole	APJ6275	0.50 to 1.45	APR6255	APQ627
	1	3-wire,* 3-pole	APJ6375	0.50 to 1.45	APR6355	APQ637
60		4-wire,* 4-pole	APJ6475	0.50 to 1.45	APR6455	APQ647
	2	2-wire,* 3-pole	APJ6385	0.50 to 1.45	APR6365	APQ638
	2	3-wire,* 4-pole	APJ6485	0.50 to 1.45	APR6465	APQ648
		2-wire,* 2-pole	APJ10277	0.875 to 1.70	APR10257	APQ1027
100	1	3-wire,* 3-pole	APJ10377	0.875 to 1.70	APR10357	APQ1037
		4-wire,* 4-pole	APJ10477	0.875 to 1.70	APR10457	APQ1047
	2	2-wire,* 3-pole	APJ10387	0.875 to 1.70	APR10367	APQ1038
	2	3-wire,* 4-pole	APJ10487	0.875 to 1.70	APR10467	APQ1048

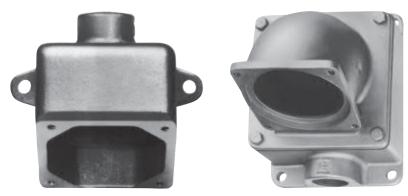
‡Style 1 – Grounded through shell. Style 2 – Grounded through extra pole and shell.

*Pressure connectors are standard. Crimp/solder type terminators are optionally available for 2, 3 and 4-pole 30 ampere,
3 and 4-pole 60 and 100 ampere. For details, see page 1316. To specify, add the suffix *T* to the catalog number.

For example:APJ3375-T (Plug)

AR6337-T (Receptacle).

For APQ Arktite® Circuit Breaking Motor Plugs



Typical back boxes used with APQ Motor Plugs

A	R	E	

For APQ 30 Amp.

Hub Size	Cat. #
1/2	ARE13
3/4	ARE23
1	ARE33

For APQ 60 Amp

For APQ 60 Amp.	
Hub Size	Cat. #
1	ARE36
11/4	ARE46
11/2	ARE56

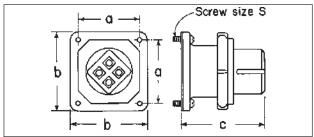
AJ

For APQ 60 and 100 Amp.

Hub Size	Cat. #
1	AJ37
11/4	AJ47
11/2	AJ57
2	AJ67

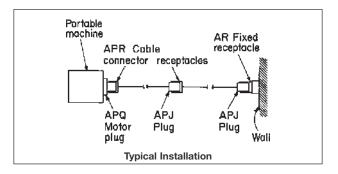
Dimensions

In Inches:



APQ Motor Plugs

Amps	а	b	С	s
30	23/4	33/8	35/8	12-24
60	31/2	41/4	47/8	5/16-18
100 (2 & 3-pole)	31/2	41/4	61/8	5/16-18
100 (4-pole)	31/2	41/4	67/16	5/16-18



For additional back box listings, see pages 1332–1333. For back box dimensions, see pages 1334–1335.

Arktite® Plugs and Receptacles Industrial Heavy Duty Hazardous

Description	Page No.
Application/Selection	see pages 1342-1343
Ark•Gard® NEMA Interlocked/Circuit Breaking	
15 & 20A ENP Plugs	see page 1349
15 & 20A ENR Receptacles - Premier Series	see page 1351
15 & 20A ENR Receptacles - Value Series	see page 1353
15 & 20A ENC Connectors	see pages 1355-1356
GFS Ground Fault	
GFS Ground Fault Circuit Interrupter	see page 1360
ENR-GFCI Kits	see pages 1357-1358
Portable ENR-GFCI Assemblies	see page 1359
Arktite® Delayed Action Circuit Breaking	
Technical Data	see pages 1344-1346
20 & 30A CPS Receptacle	see pages 1346-1347
20 & 30A CPP Plug	see pages 1346-1347
20A CPR Connector	see page 1348
Delayed Action/Circuit Breaking	
Technical Data	see page 1361
7 thru 60A CES/CESD Receptacles	see page 1361
CPH Plugs	see page 1361
	1.3

2P Plugs and Receptacles For Industrial Heavy Duty Hazardous Area Use

Application and Selection

Applications:

 To connect portable or movable electrical equipment, such as motors, motor-generator sets, tools, light systems.

Considerations for Selection:

Environmental:

- The environment of the enclosure location in terms of NEC/CEC compliance.
- Material and construction to withstand rough usage and atmospheric conditions.

Electrical:†

- Sufficient current carrying capacity to meet load requirements.
- Compatibility with electrical system (new or existing installation).
- Interchangeability of plugs with other hazardous and non-hazardous area receptacles.

See "Quick Selector" below and "Interchangeability Chart" on next page .

Options:

 Special polarity arrangements available as options, as well as special back boxes and hub arrangements for some series. See listing pages for details.

Quick Selector Chart

		Elec	Electrical Rating†		
Receptacle Series	NEC Compliances	Poles	Amps & Volts	Mating Plug	
CES, CESD	Cl. I, Division 1 and 2, Groups C, D	2-wire, 3-pole 3-wire, 4-pole	30A, 120-240VAC 7A, 460VAC‡ 60A, 115-230VAC 30A, 460VAC‡	СРН	
CPR	Non-hazardous	2-wire, 3-pole	20A, 125–250VAC 20A, 18VDC	CPP	
CPS	Cl. I, Division 1 and 2, Groups C, D	2-wire, 3-pole	20A, 125–250VAC 20A, 18VDC 30A, 125–250VAC 7A, 480VAC‡	CPP	
		3-wire, 4-pole	30A, 125–250VAC 7A, 460VAC‡		
ENR	Cl. I, Division 1 and 2, Groups B, C, D Cl. II, Division 1 and 2, Groups F, G Cl. III	NEMA 5 & 6 Config.	15A, 125VAC 15A, 250VAC 20A, 125VAC 20A, 250VAC	ENP	

[‡]CSA certified units are rated at 600 VAC.

WARNING: CPR Arktite® cable connectors are for use in non-hazardous areas only.

[†]If higher ratings are needed, refer to receptacles interlocked with safety switches and circuit breakers in Section 4P.

Plugs and Receptacles For Industrial Heavy Duty Hazardous Area Use

Interchangeability Chart

Interchangeability Chart

Many of the plugs listed in this section can be used interchangeably with receptacles from other sections, both in hazardous and non-hazardous areas, **provided electrical rating and style of plug and receptacle are the same.** The following table is a summary of possible combinations.

Plugs Shown in Section 2P	Can be Used with these Receptacle Series	Listed in Section	Plugs & Receptacle Electrical Rating
APJ	AR, NR, NPR FSQ, EPC, EPCB, EBBR DBR, WSR, NSR, NBR	1P 4P 3P, 4P	30 and 60 amp. 2-wire, 3-pole 3-wire, 4-pole 30 and 60 amp. 3-wire, 4-pole
СРН	AR, NR, NPR FSQ, EPC, EPCB, EBBR DBR, WSR, NBR, NSR	1P 4P 3P, 4P	30 and 60 amp. 2-wire, 3-pole 3-wire, 4-pole 30 and 60 amp. 3-wire, 4-pole
СРР	AR, NR, NPR	1P	30 amp. 2-wire, 3-pole 3-wire, 4-pole
	DBR, WSR, NBR, NSR	3P, 4P	30 amp. 3-wire, 4-pole

Delayed Action Factory Sealed

Applications:

CPS receptacles, angle and straight types, and CPP plugs are used:

- With portable electrically operated devices such as motor-generator sets, compressors, conveyors, portable tools, lighting systems and similar equipment
- In locations which are hazardous due to the presence of flammable vapors or gases
- In damp or corrosive locations
- In petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards exist



Fia. 1



ig. 2



Fig. 3

Features:

- The delayed action feature permits the plug to be used as an emergency pushpull switch.
- CPS receptacles are equipped with a rotating mechanism which prevents complete withdrawal of the CPP plug in one continuous movement. Details of operation are illustrated and explained below

Figure 1 shows a CPS angle type receptacle assembly with CPP plug fully engaged.

Figure 2 shows the plug withdrawn until it is stopped by the delayed action mechanism. In this position the circuit has been broken and the arc has been snuffed in the contact chambers. To completely withdraw the plug as shown in Figure 3, the delayed action release lever must be rotated counterclockwise. The time required to actuate the mechanism permits dissipation of the arc-generated heat before contacts and arcing chambers are opened to the atmosphere. When inserting the plug, the reverse procedure is followed.

- CPS receptacles are factory sealed to simplify installation and wiring – external seals are not required
- Series 152 receptacles have top hinged cover design, with 45° downward angled receptacle housing, to provide superior environmental protection from accumulations of dust, snow, ice, and water
- Back boxes used for angle type receptacles are standard EDS bodies.
 Assemblies are listed with single and two gang bodies and dead end or through feed hubs – ½" to 1" sizes
- Back boxes used for straight type receptacles are available with a variety of hub arrangements in ½" and ¾" sizes
- All receptacles and 30 ampere plugs are provided with pressure terminals for ease of field wiring. 20 ampere plugs have solder terminals.

Certifications and Compliances:

- NEC/CEC:
- Class I, Division 1 and 2, Groups C, D
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Receptacle housings die cast copperfree aluminum
- EDS Back boxes Feraloy® iron alloy (U.S.)/Copper-free aluminum (Canada)
- Other back boxes Feraloy iron alloy
- Plug exteriors copper-free aluminum or Krydon® fiberglass-reinforced polyester material (see listings)
- Insulation all receptacles and plugs Krydon fiberglass-reinforced polyester material
- Pressure or solder contacts brass
- Crimp/solder contacts leaded red brass

Standard Finishes:

- Copper-free aluminum aluminum acrylic paint
- Feraloy electrogalvanized and aluminum lacquer
- Fiberglass-reinforced polyester natural (red, white)
- Brass natural
- Leaded red brass electro-tin-plate

Electrical Rating Ranges:

- Angle type 20 and 30 amperes; 125 and 250 VAC
- Straight type 20 amperes; 125 and 250 VAC

Grounding:

- NEC Article 501 and CEC Part 1 Section 18 requires that metal frames or exposed non-current-carrying metal parts of portable devices used in hazardous locations be grounded through an extra conductor in the portable cord
- CPS receptacles and CPP plugs are provided with an extra grounding pole
- In plugs, provision is made for attachment of the grounding wire to the grounding pole. In addition, direct connection is provided between plug and receptacle housings and the grounding pole. In the receptacle, grounding is accomplished through the conduit system

Interchangeability of Plugs with Non-hazardous Location Receptacles:

 30 ampere CPP plugs can also be used with standard 30 ampere AR Arktite receptacles of the same style and number of poles, thus permitting portable devices suitable for use in hazardous locations to be connected to receptacles in both hazardous and nonhazardous areas

Note: Equipment to be used in hazardous areas must be suitable for use in the specific hazardous location.

Crouse-Hinds

Arktite® Circuit Breaking CPS Receptacles and CPP Plugs

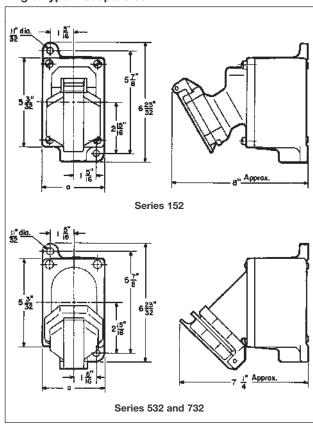
Delayed Action Factory Sealed

Options:

Dimensions

In Inches:

Angle Type Receptacles



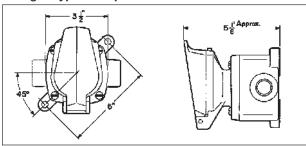
 $a = 3\frac{1}{2}$ for single gang $7\frac{3}{16}$ for two gang

Straight Type Receptacles

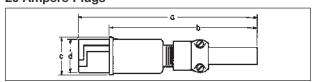
Cl. I, Div. 1 & 2, Groups C, D

Explosionproof

Wet Locations



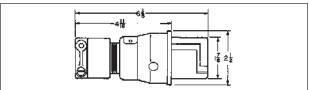
20 Ampere Plugs



Cat. #	a†	b†	С	d	
CPP516‡	83/8	67/8	13/4	19/16	
CPP512‡	7	51/2	13/4	1 9/ ₁₆	

†These dimensions are approximate and vary with cable size. ‡ 20 amp plugs are furnished with solder terminations at standard, ground contacts have pressure terminations.

30 Ampere Plugs





CPS152 - Single gang angle type



CPS152 - Two gang angle type



CPS152R - Receptacle unit only

Plug with



CPP Plugs with mechanical cable grip and neoprene bushing

Style 2 - Grounded Through Extra Pole and Shell

Rating	Description		Hub Size (In.)	Single Gang Receptacle Assembly Cat. #	Two Gang Receptacle Assembly Cat. #	Cable Dia. (In.)	Plug with Aluminum Handles Cat. #	High Impact Molded Composition Handle Cat. #	Receptacle Unit only Cat. #
20A, 1 HP, 125–250VAC, 60 hertz, 20A, 18VDC	2-wire, 3-pole	Dead End	1/ ₂ 3/ ₄ 1	CPS152 101* CPS152 201* CPS152 301*	CPS152 102* CPS152 202* CPS152 302*	.312 to .625† CPP516 ‡	CPP512‡	CPS152R	
		Through Feed	1/ ₂ 3/ ₄ 1	CPS152 111* CPS152 211* CPS152 311*	CPS152 112*- CPS152 212* CPS152 312*		0113104	011 0124	01 010211
30A, 1½ HP, 125–250VAC, 60 hertz, 7A, ½ HP, 480VAC**, 60 hertz	2-wire, 3-pole	Dead End	1/ ₂ 3/ ₄ 1	CPS532 101 CPS532 201 CPS532 301	CPS532 102 CPS532 202 CPS532 302	.375 to .875† CPP4553		CPS532R	
		Through Feed	1/ ₂ 3/ ₄ 1	CPS532 111 CPS532 211 CPS532 311	CPS532 112 . CPS532 212 CPS532 312				
30A, 3 HP, 125–250VAC, 60 hertz, 7A, 1 HP, 480VAC**, 60 hertz	3-wire, 4-pole	Dead End	1/ ₂ 3/ ₄ 1	CPS732 101 CPS732 201 CPS732 301	CPS732 102 CPS732 202 CPS732 302	.375 to .875† CPP4752		CPS732R	
		Through Feed	1/ ₂ 3/ ₄ 1	CPS732 111 CPS732 211 CPS732 311	CPS732 112 . CPS732 212 CPS732 312	J.575 15 .5751	0.1.4702		0. 0.0211

^{*}Back boxes are available in copper-free aluminum. To order, add suffix SA to the Cat. No.

[†] CSA certified units are rated at 600 VAC at 7A.

† Receptacles will take any of the plugs grouped in the bracket opposite the receptacle listings.

‡ 20 amp plugs are furnished with solder terminations at standard, ground contacts have pressure terminations.

Arktite® Circuit Breaking CPS Receptacles and CPP Plugs

CI. I, Div. 1 & 2, Groups C, D Explosionproof Wet Locations

Delayed Action Factory Sealed

CPS Straight Type

2-wire, 3-pole

20A, 1HP, 125-250VAC, 60-400 hertz, 20A, 18VDC

CPS Dead End



Hub Size (In.)	Assembly Cat. #	Body Cat. #	
1/2	CPS14 120	CPS120	
3/4	CPS14.20	CPS20	

CPS Through Feed



Hub Size (In.)	Assembly Cat. #	Body Cat. #
1/ ₂	CPS14 121	CPS121
3/ ₄	CPS14 21	CPS21

CPS Receptacle Unit With Spring Door



Туре	Cat. #
CPS Receptacle Unit with Spring Door	CPS14R

CPP Plugs

With Mechanical Cable Grip and Neoprene Bushing



With aluminum handle



With high impact molded composition handle

Cable Dia. (In.)	Aluminum Cat. #	Composition Cat. #
.312 to .625	CPP516	CPP512



CPS straight type shown with plug

2P

Arktite® CPR Cable Connector Receptacles Delayed Action Circuit Breaking

Applications:

CPR Arktite delayed action cable connector receptacles are used in non-hazardous areas only*:

- To make up adapter sets for connecting portable devices having CPP plugs to receptacles in non-hazardous areas. This is accomplished by equipping one end of the length of cable with the CPR receptacle and the other with a plug to mate with the receptacle in the non-hazardous area.
- To make up extension cords using the CPR receptacle at one end and a CPP plug at the other.

Features:

- Spring door housing with the same delayed action rotating mechanism provided in CPS receptacles
- · Pressure terminals are furnished for ease of wiring
- Gland nut with mechanical cable grip and bushing for effective strain relief

Standard Materials:

- Housing copper-free aluminum
- Insulation fiberglass-reinforced polyester
- Contacts brass

Standard Finishes:

- Copper-free aluminum natural
- Fiberglass-reinforced polyester natural (red)
- Brass natural

Style 2 – Grounded Through Extra Pole and Shell

For Use With CPP516 and CPP512 Series Plugs



Description	Rating	Cable Dia.	Cat. #
2-wire, 3-pole	20A, 1HP, 125–250VAC, 60 hertz 20A, 18 VDC	.375 to .625	CPR154

^{*}CSA certified unit suitable for Class I, Groups C and D (not available in USA).

ENP Plugs for Ark•Gard® ENR Receptacles and ENC Connectors

Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1 & 2, Groups F, G CI. III NEMA 3, 7BCD, 9FG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Applications:

ENP plugs are used:

- With portable electrical equipment such as compressors, tools, lighting systems, and similar devices
- In areas made hazardous by the presence of flammable vapors and gases or combustible dusts
- Wherever portable electrical equipment is likely to be transferred from hazardous to non-hazardous areas
- In damp and corrosive areas
- When power requirements do not exceed 20 amperes
- · Where general purpose application is required

Features:

- Captive set screw design is now standard on all ENP plugs.
- · Design assures ease of installation and reduces likelihood of losing critical components in the field.
- Insulator and contact components are now a single piece assembly.
- ENP plugs can be used in nonhazardous areas with standard Uground NEMA/EEMAC configuration 5 and 6 receptacles, eliminating the need for two separately equipped portable units of the same type. The ENR receptacle will not accept standard NEMA/EEMAC configuration plugs.
- ENP plug handle body is designed with an internal cord strain relief mechanism and a cable sealing grommet which will accept various cable diameters.
- · Field assembly is accomplished with standard tools.
- Ark•Gard 2 receptacle incorporates three spring-loaded slide keys that prevent the receptacle face plate from being rotated until the ENP plug is fully inserted into the receptacle. To make the connection, the ENP plug is fully inserted, and the receptacle face moved inward by pushing the plug forward. The plug is then rotated, closing the circuit. As rotation begins, the plug becomes locked in the receptacle and cannot be accidentally disengaged. In making or breaking the circuit, any resulting electrical arc is confined in the factorysealed chamber.

Certifications and Compliances:

• NEC:

Class I, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Groups F, G Class III

- ANSI/UL Standard 1010
- NEMA/EEMAC 3, 7BCD, 9FG

Class I, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Group G

Standard Materials:

- Plug body die cast copper-free
- Interior nvlon 100
- Contacts brass
- Plug bushing neoprene

Standard Finishes:

- Copper-free aluminum aluminum acrylic paint
- Brass natural

Electrical Rating Ranges:

15 amperes; 125 VAC and 250 VAC, 50-400 hertz

20 amperes; 125 VAC and 250 VAC, 50-400 hertz

Grounding:

• NEC Article 501 and CEC Section 18 requires that metal frames or exposed non-current-carrying metal parts of portable devices used in hazardous locations be grounded through an extra conductor in the portable cord. ENR Receptacles and ENP Plugs are provided with an extra grounding pole.

CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.





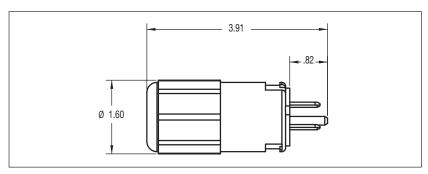




Ordering Information:

3		
Plug Rating	NEMA Config.	Cat. #
15 Amp 125 Volt	(i)	ENP5151
15 Amp 250 Volt		ENP6152
20 Amp 125 Volt	(i)	ENP5201
20 Amp 250 Volt		ENP6202

Dimensions In Inches:



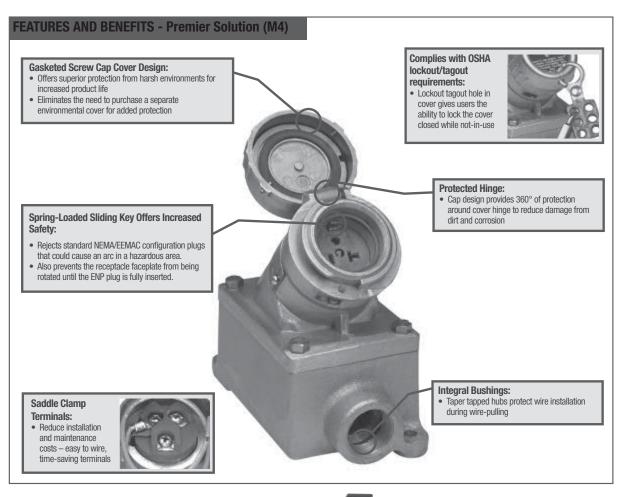
Premier and Value Series

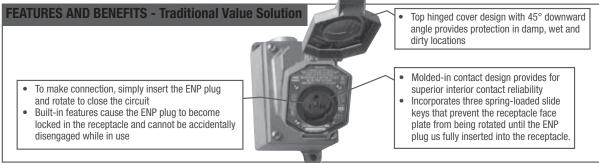
Ark•Gard® Premier Series:

• The premier line of ENR Receptacles (M4) come equipped with exclusive features that increase the life of the product, reduce maintenance costs, and eliminate the need to purchase costly replacement parts. There is no other product offering on the market today that comes equipped with time-saving saddle clamp terminals or the added safety of a lockout/tagout hole. The premier ENR Receptacle Series is the ideal solution for applications where increased safety and reliability are critical.

Ark • Gard® Value Series:

• The value line of ENR Receptacles is the ideal solution for rugged and industrial NEMA configured applications up to 20 amperes. Like the premier line, this product comes equipped with built-in safety features that reject standard NEMA configuration plugs that could cause an arc in hazardous areas.





Cl. I, Div. 1 & 2, Groups B*, C, D **Explosionproof** Cl. II, Div. 1 & 2, Groups F, G **Dust-Ignitionproof** Raintight NEMA 3, 3R, 7BCD, 9FG, 12 Wet Locations

ENR Premier Series Dead Front Interlocked Circuit Breaking Receptacles

ENP Plugs

Applications:

Ark•Gard® products are used:

- In applications that require additional environmental protection
- With portable or fixed electrical equipment such as motor generator units, welders, pumps, compressors, heating and cooling units, cellular relay stations, conveyors, lighting systems, and similar equipment
- In areas made hazardous by the presence of flammable vapors and gases or combustible dusts
- When power requirements do not exceed 20 amperes

Certifications and Compliances:

Class I, Division 1, Groups B*, C, D Class II, Groups F, G

Class III

NEMA 3, 3R

• CEC±:

Class I, Division 1, Groups B*, C, D

Class II, Group G

Class III

NEMA 3, 3R

Standard Materials:

- Receptacle housing, spring door and plug body die cast copperfree aluminum
- Interiors: receptacle Krydon® fiberglass-reinforced polyester material; plug - nylon 100
- Contacts: receptacle blade brass; receptacle switch silver; plug
- Receptacle cover hinge pin and spring stainless steel
- Receptacle gasket neoprene
- Plug bushing neoprene
- Back boxes copper-free aluminum

Standard Finishes:

- Copper-free aluminum aluminum acrylic paint
- Brass natural

Options:

CI. III

Description Suffix

Corro-free™ epoxy powder finish for added corrosion

Electrical Rating Ranges:

· Receptacles:

15 amperes; 125 VAC and 250 VAC, 50-400 hertz 20 amperes; 125 VAC and 250 VAC, 50-400 hertz

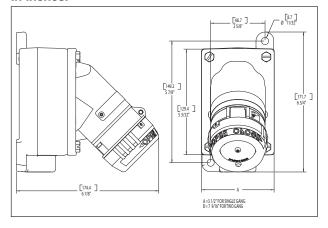
15 amperes: 125 VAC and 250 VAC, 50-400 hertz 20 amperes; 125 VAC and 250 VAC, 50-400 hertz

Grounding:

• NEC Article 501 and CEC Section 18 requires that metal frames or exposed non-current-carrying metal parts of portable devices used in hazardous locations be grounded through an extra conductor in the portable cord. ENR Receptacles and ENP Plugs are provided with an extra grounding pole.

Dimensions

In Inches:



Type

Single Gang

Double Gang

Dimension A

31/2" 79/16"

*Single gang assemblies purchased with an EFS back box are suitable for Class I, Group B. ‡15A units are CSA Listed only.

ENR Premier Series Dead Front Interlocked Circuit Breaking Receptacles ENP Plugs

Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1 & 2, Groups F, G CI. III NEMA 3, 3R, 7BCD, 9FG, 12

Explosionproof **Dust-Ignitionproof** Raintight Wet Locations

Ordering Information:











15 A	15 A Receptacle Rating	Description	Hub Size	Single Gang* Receptacle Assembly Cat. #	Two Gang** Receptacle Assembly Cat. #	Group B Listed‡ Single Gang Assembly Cat. #	Receptacle§ Unit Only Cat. #	NEMA Config.	15 A Plug†† Cat. #	NEMA Config.
	15 Amp	Dead End	1/2" 3/4" 1 "	ENR11151 M4 ENR21151 M4 ENR31151 M4	ENRB11151 M4 ENRB21151 M4 ENRB31151 M4	ENRB11151 M4 ENRB21151 M4 ENRB31151 M4	ENR5151 M4	(B)	ENP5151	
(F)	125 Volt	Through Feed	1/2" 3/4" 1 "	ENRC11151 M4 ENRC21151 M4 ENRC31151 M4	ENRCB11151 M4 ENRCB21151 M4 ENRCB31151 M4	ENRCB11151 M4 ENRCB21151 M4 ENRCB31151 M4		5-15R		5-15P
	15 Amp	Dead End	1/2" 3/4" 1"	ENR11152 M4 ENR21152 M4 ENR31152 M4	ENRB11152 M4 ENRB21152 M4 ENRB31152 M4	ENRB11152 M4 ENRB21152 M4 ENRB31152 M4		(a)	ENDO450	
	250 Volt	Through Feed	1/2" 3/4" 1"	ENRC11152 M4 ENRC21152 M4 ENRC31152 M4	ENRCB11152 M4 ENRCB21152 M4 ENRCB31152 M4	ENRCB11152 M4 ENRCB21152 M4 ENRCB31152 M4	ENR6152 M4	6-15R	ENP6152	6-15P
20 A	20 A Receptacle Rating	Description	Hub Size	Single Gang* Receptacle Assembly Cat. #	Two Gang** Receptacle Assembly Cat. #	Group B Listed‡ Single Gang Assembly Cat. #	Receptacle§ Unit Only Cat. #	NEMA Config.	20 A Plug†† Cat. #	NEMA Config.
20 A	Receptacle	Dead End Through		Receptacle	Receptacle	Single Gang	Unit Only	Config.	Plug††	Config.
	Receptacle Rating	Dead End	1/2" 3/4" 1" 1/2"	Receptacle Assembly Cat. # ENR11201 M4 ENR21201 M4 ENR31201 M4 ENRC11201 M4	Receptacle Assembly Cat. # ENRB11201 M4 ENRB21201 M4 ENRB31201 M4 ENRCB11201 M4	Single Gang Assembly Cat. # ENRB11201 M4 ENRB21201 M4 ENRB31201 M4 ENRCB11201 M4	Unit Only Cat. #	Config.	Plug†† Cat. #	Config.

ENR22201 GB M4).

‡Single gang assemblies purchased with an EFS back box are suitable for Class I, Group B.

§Receptacle units alone (i.e. ENR5201) are not suitable for Class I, Group B.

†ENP plugs use #12 or #14 AWG type S, SO, ST or STO cord with range of .540 to .635 inches diameter.

Note: Assemblies standard with copper-free aluminum EDS, EDSC, EFS, EFSC back boxes.

2Р

^{*}Single gang assemblies purchased with an EDS back box are suitable for Class I, Groups C, D only. For self-certified Class I, Group B rating, add the suffix "GB" to the catalog number (i.e. ENR21201 GB M4).

**Dual gang assemblies purchased with an EDS back box are suitable for Class I, Groups C, D only. For self-certified Class I, Group B rating, add the suffix "GB" to the catalog number (i.e. ENR22201 GB M4).

ENR Value Series Dead Front Interlocked Circuit Breaking Receptacles

Cl. I, Div. 1 & 2, Groups B†, C, D Cl. II, Div. 1 & 2, Groups F, G Cl. III NEMA 3, 7BCD, 9FG, 12

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

ENP Plugs

Applications:

ENR receptacles and ENP plugs are used:

- With portable electrical equipment such as compressors, tools, lighting systems, and similar devices
- In areas made hazardous by the presence of flammable vapors and gases or combustible dusts
- Wherever portable electrical equipment is likely to be transferred from hazardous to non-hazardous areas
- In damp and corrosive areas
- When power requirements do not exceed 20 amperes
- Where general purpose application is required

Features:

- Ark•Gard 2 receptacle incorporates
 three spring-loaded slide keys that
 prevent the receptacle face plate from
 being rotated until the ENP plug is fully
 inserted into the receptacle. To make
 the connection, the ENP plug is fully
 inserted, and the receptacle face moved
 inward by pushing the plug forward. The
 plug is then rotated, closing the circuit.
 As rotation begins, the plug becomes
 locked in the receptacle and cannot be
 accidentally disengaged. In making or
 breaking the circuit, any resulting
 electrical arc is confined in the factorysealed chamber.
- Factory-sealed chamber encloses the potential arcing components between two explosionproof threaded joints.
 These threads are specially coated to guarantee freedom of movement, which ensures on-off action. No additional seals are required.
- One piece molded gasket seals cover plate and ENP plug when plug is inserted, providing full environmental protection at the receptacle face.
- Top-hinged cover design with 45° downward angle provides superior protection in damp, wet, and dirty locations.
- Field assembly is accomplished with standard tools.
- Use standard EDS back boxes.

Certifications and Compliances:

• NEC:

Class I, Division 1 and 2, Groups B†, C, D Class II, Division 1 and 2, Groups F, G Class III

- ANSI/UL Standard 1010
- NEMA/EEMAC 3, 7BCD, 9FG
- CFC:

Class II, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Group G Class III

Standard Materials:

- Receptacle housing and spring door die cast copper-free aluminum
- Interior Krydon® fiberglass-reinforced polyester material
- Contacts: receptacle blade brass; receptacle switch – silver
- Receptacle cover hinge pin and spring stainless steel
- Receptacle gasket neoprene

Standard Finishes:

- Copper-free aluminum aluminum acrylic paint
- Brass natural

Electrical Rating Ranges:

Receptacles:

15 amperes; 125 VAC and 250 VAC, 50–400 hertz

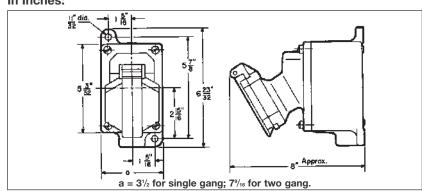
20 amperes; 125 VAC and 250 VAC, 50-400 hertz

Grounding:

 NEC Article 501 and CEC Section 18 requires that metal frames or exposed non-current-carrying metal parts of portable devices used in hazardous locations be grounded through an extra conductor in the portable cord. ENR Receptacles and ENP Plugs are provided with an extra grounding pole.

CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.

Dimensions In Inches:



†Receptacle units alone (i.e. ENR5201) are not suitable for Class I, Group B.

1353

ENR Value Series Dead Front Interlocked Circuit Breaking Receptacles

Cl. I, Div. 1 & 2, Groups B+, C, D Explosionproof Cl. II, Div. 1 & 2, Groups F, G CI. III NEMA 3, 7BCD, 9FG, 12

Dust-Ignitionproof Raintight Wet Locations

ENP Plugs

Ordering Information:









				3	3				
15 A	15 A Receptacle Rating	Description	Hub Size	Single Gang* Receptacle Assembly Cat. #	Two Gang** Receptacle Assembly Cat. #	Receptacle† Unit Only Cat. #	NEMA Config.	15 A Plug‡ Cat. #	NEMA Config.
	15 Amp	Dead End	1/2 II 3/4 II	ENR11151 ENR21151	ENR12151 ENR22151		æ		æ
_	125 Volt	Through Feed	1" 1/2" 3/4"	ENR31151 ENRC11151 ENRC21151	ENR32151 ENRC12151 ENRC22151	ENR5151		ENP5151	
(1)			1"	ENRC31151	ENRC32151		5-15R		5-15P
		Dead End	1/2" 3/4"	ENR11152 ENR21152	ENR12152 ENR22152		22		*
	15 Amp 250 Volt		1"	ENR31152	ENR32152	ENR6152		ENP6152	
		Through Feed	1/2" 3/4" 1"	ENRC11152 ENRC21152 ENRC31152	ENRC12152 ENRC22152 ENRC32152		6-15R		6-15P
20 A	20 A Receptacle Rating	Description	Hub Size	Single Gang Receptacle Assembly Cat. #	Two Gang Receptacle Assembly Cat. #	Receptacle Unit Only Cat. #	NEMA Config.	20 A Plug Cat. #	NEMA Config.
		Dead End	1/2" 3/4"	ENR11201 ENR21201	ENR12201 ENR22201		G		æ
	20 Amp 125 Volt		1"	ENR31201	ENR32201	ENR5201		ENP5201	*
		Through Feed	1/2" 3/4"	ENRC11201 ENRC21201	ENRC12201 ENRC22201				
ψ			1"	ENRC31201	ENRC32201		5-20R		5-20P
(1)		Dead End	1/2"	ENR11202	ENR12202				
	20 Amp 250 Volt		3/ ₄ "	ENR21202 ENR31202	ENR22202 ENR32202	ENR6202	23	ENP6202	%
	230 VOIL	Through Feed	1/2" 3/4"	ENRC11202 ENRC21202	ENRC12202 ENRC22202				
			1"	ENRC31202	ENRC32202		6-20R		6-20P

Note: 15A with copper-free aluminum EDS, EDSC back boxes. 20A with Feraloy® iron alloy EDS, EDSC back boxes.



[†]Receptacle units alone (i.e. ENR5201) are not suitable for Class I, Group B.
*Single gang assemblies purchased with an EDS back box are suitable for Class I, Group B.
*Dual gang assemblies purchased with an EDS back box are suitable for Class I, Group C, D only. For Class I, Group B rating, add the letter B to the Cat. No. Example: ENRB22201. Seals must be installed within 1½" of each conduit opening.
‡ENP Plugs use #12 or #14 AWG type S, SO, ST or STO cord with range of .540 to .635 inches diameter.

Ark•Gard® ENC Connectors

Hazardous Locations: CSA Certified Cl. I, Groups B, C, D

Cl. II, Group G, Coal Dust

CI. III

NEMA 3R, Weatherproof

ENC Connector:

 This ENC connector makes it safe and easy to bring power wherever it is needed. It provides versatility for making cord sets for connecting portable devices in both hazardous and nonhazardous locations

Applications:

Hazardous ENC Connectors are used:

Standard maintenance or plant turnarounds to provide power connections for:

- Portable hand lamps for visual inspections
- Portable light fixtures for general illumination
- Portable hand tools such as saws or grinders

Standard operation to provide a means of quick disconnect to move or disassemble equipment such as:

- · Motor generator units
- Portable control rooms
- Pumps and motors

Common applications include:

- Refineries
- Chemical Plants
- LNG facilities
- Wastewater Treatment Facilities
- Drilling and Exploration

Certifications and Compliances:

- CSA Certified CSA C22.2 No. 159M
- Class I, Groups B, C, D
- Class II, Group G, Coal Dust
- Class III
- NEMA 3R, Weatherproof
- NEC article 501.140 compliance

Standard Materials:

- Connector bodies high impact strength copper-free aluminum
- Insulation fiberglass-reinforced polyester material
- Contacts: receptacle blade brass; receptacle switch silver; plug brass

Standard Finishes:

- Aluminum natural
- Fiberglass-reinforced polyester red

Options:

 Description
 Suffix

 • Corro-free™ epoxy powder finish for added corrosion resistance
 \$752

Electrical Rating Ranges:

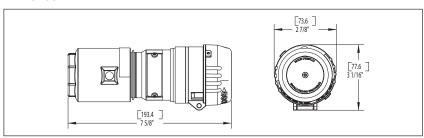
- 15 Amp and 20 Amp
- 125 VAC and 250 VAC

Ordering Information:

15A/20A Rating	Cord Range	Connector Cat. #	NEMA Config.	Plug Cat. #	NEMA Config.
15 Amp 125 Volt	0.39-1.20	ENC5151 CAN	5-15R	ENP5151	5-15P
15 Amp 250 Volt	0.39-1.20	ENC6152 CAN	6-15R	ENP6152	6-15P
20 Amp 125 Volt	0.39-1.20	ENC5201 CAN	0 11_ 5-20R	ENP5201	5-20P
20 Amp 250 Volt	0.39-1.20	ENC6202 CAN	6-20B	ENP6202	6-20P

Dimensions

In Inches:



Hazardous Locations: CSA Certified Cl. I, Groups B, C, D Cl. IÍ, Group G, Coal Dust NEMA 3R, Weatherproof

FEATURES AND BENEFITS

Uni-Shell™ Handle Body:

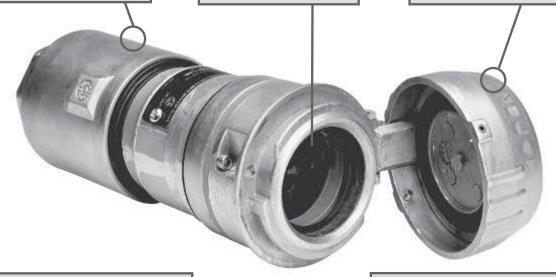
• Provides a smooth durable external surface that prevents the connector from getting snagged on equipment or other cables

Spring-Loaded Sliding Key Offers Increased Safety:

- Rejects standard NEMA/EEMAC configuration plugs that could cause an arc in a hazardous area
- Prevents the faceplate from being rotated until the ENP plug is fully inserted. inserted

Increased Environmental Reliability with Hinged-Locking Cover:

- Provides weather protection in damp, wet and dirty locations
- Cover stays closed until connection with ENP plug is required



Plug Gaskets:

- Two gaskets cover the entire range of cable diameters reducing risk of improper assembly
- · Gasket ratchets into Tri-Lock cable grip to prevent connector from turning or loosening

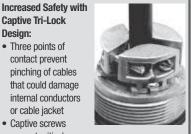
Improved Safety with Integral Lockout/Tagout:

· Eliminates risk of operator or contractor plugging in process equipment when conditions are unsafe



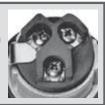
Captive Tri-Lock Design:

- Three points of contact prevent pinching of cables that could damage internal conductors or cable jacket
- Captive screws prevent critical components from getting lost during installation



Saddle Clamp Terminals:

 Increased safety with easy-to-terminate connection points for reliable conductor terminations



Mates with Eaton's Crouse-Hinds Frustration-Free ENP Plua



Snap-In Internal Insulator:

· Increases safety of personnel with intermediate insulator between conductors and metallic outer shell



2F

Ark•Gard® Series ENR-GFCI Kits

CI. I, Div. 1 & 2, Groups B*, C, D CI. II, Div. 1, Groups E, F, G CI. II, Div. 2, Groups F, G CI. III NEMA 3, 7B*CD, 9EFG, 12 Explosionproof

Dust-Ignitionproof

Applications:

ENR-GFCI Kits are used:

- To interrupt a circuit when ground fault is detected on equipment which may be handled by personnel in hazardous locations
- With portable electrical equipment such as tools, lighting systems, compressors and similar devices for personnel protection
- In branch circuits of 15 to 20 amperes at 125 volts AC

In applications such as:

- Refineries
- Chemical Plants
- LNG Facilities
- Wastewater Treatment Facilities
- · Drilling and Exploration

Features:

- Allows for a single part number to be specified, ordered and delivered on-site, significantly reducing the cost of order processing, material handling and misplacement of materials.
- Ark•Gard ENR-GFCI Kit components meet all UL and CSA requirements for ground fault protection in hazardous locations.
- Includes all of the value-added features of the ENR Receptacle.
- The GFCI protects personnel against possible injury due to unwanted ground faults; meets requirements for personnel protection as defined in the National Electrical Code®.
- Field installation is accomplished with standard tools.

Standard Materials:

ENR Receptacle:

- Receptacle housing, spring door and plug body die cast copperfree aluminum
- Interiors: receptacle Krydon® fiberglass-reinforced polyester material
- Contacts: receptacle blade brass; receptacle switch silver
- Receptacle cover hinge pin and spring stainless steel
- Receptacle gasket neoprene
- Back Box Feraloy® iron alloy

GFS Ground Fault Circuit Interrupter:

- Cover sand cast copper-free aluminum
- Sealing well die cast copper-free aluminum
- Pushbuttons and guards stainless steel
- Shaft seals neoprene
- Interior: body polycarbonate; contacts brass

Standard Finishes:

ENR Receptacle:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum aluminum acrylic paint
- Brass natural

GFS Ground Fault Circuit Interrupter:

- Copper-free aluminum aluminum lacquer
- Stainless steel natural
- Polycarbonate natural (ivory)
- Brass natural

Electrical Rating Ranges:

- 15 and 20 amperes
- 125 VAC
- 5 milliampere trip setting
- Class A per ANSI/UL943

Certifications and Compliances:

- NEC/CEC Listed Components
 - Class I, Division 1 and 2, Groups B*, C, D
 - Class II, Division 1, Groups E, F, G
 - Class II, Division 2, Groups F, G
 - Class III
- ANSI/UL Standard: 943, 1203
- NEMA/EEMAC 3, 7CD, 9EFG, 12
- CSA Standard: C22.2 No. 30, 144



*Tested and Eaton's Crouse-Hinds certified for Group B.

2P Ark•Gard® Series ENR-GFCI Kits

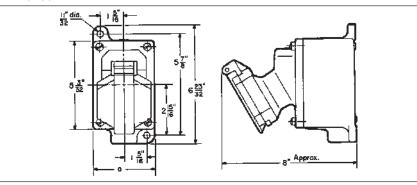
Cl. I, Div. 1 & 2, Groups B*, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III NEMA 3, 7B*CD, 9EFG, 12

Explosionproof
Dust-Ignitionproof

Ordering Information:

					a constant	
Receptacle Rating	Description	Hub Size	Cat. #	NEMA Config.	Plug Cat. #	NEMA Config.
15 Amp	Dead End	1/2" 3/4" 1"	ENR12151 GFI ENR22151 GFI ENR32151 GFI	○G U		w II
125 Volt	Through Feed	1/2" 3/4" 1"	ENRC12151 GFI ENRC22151 GFI ENRC32151 GFI	5-15R	ENP5151	5-15P
20 Amp	Dead End	1/2" 3/4" 1"	ENR12201 GFI ENR22201 GFI ENR32201 GFI	()G ()G ()W		G G
125 Volt	Through Feed	1/2" 3/4" 1"	ENRC12201 GFI ENRC22201 GFI ENRC32201 GFI	5-20R	ENP5201	5-20P

Dimensions In Inches:



*Tested and Eaton's Crouse-Hinds certified for Group B.

Ark•Gard® Series Portable ENR-GFCI Assemblies

Applications:

Portable ENR-GFCI Assemblies are used:

- To interrupt a circuit when a ground fault is detected on portable equipment which may be handled by personnel in hazardous locations
- · With electrical equipment such as portable hazardous-rated hand lamps

In applications such as:

- Refineries
- Chemical plants
- LNG facilities

Features:

- Provides earth leakage protection to maximize safety of plant personnel
- Solution to OSHA's requirements for GFCI protection when using portable equipment in hazardous locations
- LED indicator light provides indication that the receptacle is energized and ready for use
- Available with either a red or green LED indicator light to provide indication that the receptacle is energized and ready
- · Assemblies still consist of the same high quality components that make up the industry-leading Ark • Gard Series

Certifications and Compliances:

• UL Standard: 943, 11203

• CSA Standard: C22.2 No. 30

Standard Materials:

ENR Receptacle:

- · Receptacle housing, spring door and plug body - die cast copper-free aluminum
- Interiors: receptacle Krydon® fiberglass-reinforced polyester material
- Contacts: receptacle blade brass; receptacle switch - silver
- Receptacle cover hinge pin and spring stainless steel
- Receptacle gasket neoprene
- Back box Feraloy[®] iron alloy

GFS Ground Fault Circuit Interrupter:

- Cover sand cast copper-free aluminum
- Sealing well die cast copper-free aluminum
- Pushbuttons and guards stainless steel
- Shaft seals neoprene
- Interior: body polycarbonate; contacts - brass

Standard Finishes:

ENR Receptacle:

- Feraloy iron alloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum aluminum acrylic paint
- Brass natural

GFS Ground Fault Circuit Interrupter:

- Copper-free aluminum aluminum lacquer
- Stainless steel natural
- Polycarbonate natural (ivory)
- Brass natural

Electrical Rating Ranges:

- 20 amperes
- 125 VAC
- 5 mlliampere trip setting
- Class A per ANSI/UL943

Options:

· Incandescent pilot light available, consult factory



Ordering Information:

Amp	Volt	Ground Trip Current	Pilot Light	Cat. #
20	125	5mA	Red LED	ENR22201 PGF1 RLED
20	125 51114	SIIIA	Green LED	ENR22201 PGF1 GLED

Applications:

GFS ground fault circuit interrupters are used:

- With portable electrical equipment such as tools, lighting systems, compressors and similar devices for personnel protection
- In areas made hazardous by the presence of flammable vapors, gases or combustible dusts
- In branch circuits of 15 to 20 amperes at 125 volts AC
- In conjunction with ENR or CPS152 receptacles

Features:

- Factory sealed chamber encloses the ground fault circuit interrupter (GFCI) and its potentially arcing components in an enclosure with explosionproof ground joints. No additional sealing is required when proper body is used.
- GFCI protects personnel against possible injury due to unwanted ground faults; meets requirements for personnel protection as defined in the National Electrical Code®.
- GFCI is feed-through type to serve several receptacles.
- Decentralized GFCI protection on branch circuits permits immediate identification of circuit where a ground fault is occurring; does not interrupt power on total branch circuit if tripped or when periodically tested; significantly reduces incidence of nuisance tripping; provides for use of 125 VAC portable lighting even when working on metal floors or catwalks.
- Field installation is accomplished with standard tools.
- Can be installed on any Eaton's Crouse-Hinds single or multiple gang EDS or EDSC device box.

Certifications and Compliances:

NEC/CEC

Class I, Division 1 and 2, Groups C, D Class II, Division 1, Groups E, F, G Class II, Division 2, Groups F, G Class III

- ANSI/UL Standard: 943, 1203
- NEMA/EEMAC 3, 7CD, 9EFG, 12
- CSA Standard: C22.2 No. 30, 144

Standard Materials:

- Cover sand cast copper-free aluminum
- Sealing well die cast copper-free aluminum
- Pushbuttons and guards stainless steel
- Shaft seals neoprene
- Interior: body polycarbonate; contacts – brass



Standard Finishes:

- Copper-free aluminum aluminum lacquer
- Stainless steel natural
- Polycarbonate natural (ivory)
- Brass natural

Electrical Rating Ranges:

- 20 amperes
- 125 VAC
- 5 milliampere trip setting
- Class A per ANSI/UL943

Ordering Information:

milliampere trip

Amps	Description	Cat. #
	Factory-sealed ground	
20	fault circuit interrupter - 5	GFS1

Application Recommendations:

 GFS-1 can be installed in an EDS back box (see page 517) for point-of-use protection or for protection of downstream receptacles.



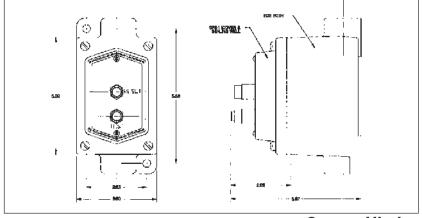
GFS-1 with EDS271 back box

GFS-1 can be used with ENR or CPS receptacles and EDS back box for circuit interrupter protection of portable equipment.



GFS-1 with EDS172 back box and ENR5201 receptacle

Dimensions In Inches:



CES and CESD Arktite Receptacles

Delayed Action Circuit Breaking CPH Plugs

CESD – Cl. I, Div. 1 & 2, Group D*
CES – Cl. I, Div. 1 & 2, Groups C, D
Explosionproof
Wet Locations
Factory Sealed

Applications:

CES and CESD receptacles with CPH plugs are used:

- With portable electrically operated devices such as motor-generator sets, compressors, conveyors, portable tools, lighting systems and similar equipment
- In locations which are hazardous due to the presence of flammable vapors or gases
- In damp or corrosive locations
- At petroleum refineries, chemical and petrochemical plants, and other process industry facilities where similar hazards exist

Features:

- CES and CESD receptacles are equipped with a delayed action rotating sleeve which prevents complete withdrawal of the CPH plug in one continuous movement
- The delayed action feature permits the plug to be used as an emergency pushpull switch
- Details of operation are illustrated and described to the right:
- Receptacles are factory sealed to simplify installation and wiring. External seals are not required.
- The 30 ampere receptacles are provided with pressure terminals for field connection. The 60 ampere receptacles have flexible leads. Plugs are equipped with solder terminals.
- Two arrangements are provided for the ³/₄" and 1¹/₄" conduit hubs, as shown in the listings and dimensions see page 1362.

Certifications and Compliances:

• NEC/CEC:

CES – Class I, Division 1 and 2, Groups C, D; CESD – Class I, Division 1 and 2, Group D*

ANSI/UL Standard: 1010

• CSA Standard: C22.2 No. 182.1

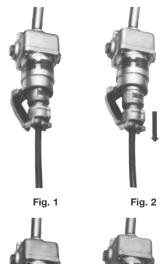




Figure 1 above shows a CES receptacle assembly with CPH plug fully engaged.

Figure 2 shows the plug withdrawn until it is stopped by the delayed action sleeve. In this position the circuit has been broken and the arc has been snuffed in the contact chambers.

Figure 3 shows the delayed action receptacle sleeve rotated approximately 45° to allow withdrawal of plug from receptacle.

Figure 4 shows the plug completely withdrawn. To accomplish this, the delayed action sleeve must be rotated counterclockwise. The time required to actuate the mechanism permits dissipation of the arc-generated heat before contacts and arcing chambers are opened to the atmosphere. When inserting the plug, the reverse procedure is followed.

Options:

Standard Materials:

- Back boxes Feraloy[®] iron alloy
- Receptacle housings 30 ampere copper-free aluminum; 60 ampere – Feraloy® iron alloy
- Plug bodies copper-free aluminum
- Insulation *Krydon*® fiberglass-reinforced polyester
- Contacts brass or hard-drawn copper

Standard Finishes:

- Feraloy electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Krydon material red
- Brass and copper natural

Grounding:

- NEC article 501 and CEC Part 1 Section 18 require that metal frames or exposed non-current-carrying metal parts of portable devices used in hazardous locations be grounded through an extra conductor in the portable cord.
- CES and CESD receptacles and CPH plugs are provided with an extra grounding pole for attachment of the grounding wire. In the plugs, provision is made for attachment of the grounding wire to the grounding pole. In addition, direct connection is provided between plug and receptacle housings and the ground pole. In the receptacles, grounding is accomplished through the conduit system.

Interchangeability of Plugs with Non-hazardous Location Receptacles:

- CPH plugs can also be used with standard AR and NR receptacles of the same ampere rating, style and number of poles, thus permitting portable devices which are suitable for use in hazardous locations to be connected to receptacles in both hazardous and nonhazardous areas
- Portable devices for non-hazardous areas equipped with APJ and NPJ Arktite plugs cannot be used with CES and CESD receptacles

Electrical Rating Ranges:

30 and 60 amperes

The following special options are available from the factory by adding the suffix to the Cat. #: Description Suffix

 Special polarity – for use where two or more receptacles of the same ampere rating, style and number of poles are to be installed in the same area for use on different voltages. Receptacle interior rotated 22½° clockwise when viewed from face and plug changed to match

S4

29

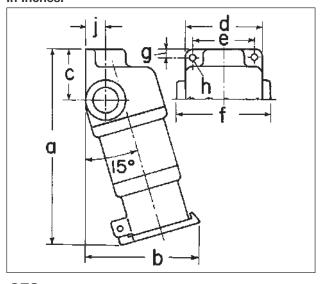


2P CES and CESD Arktite® Receptacles

Delayed Action Circuit Breaking CPH Plugs Dimensions

CESD — Cl. I, Div. 1 & 2, Group D* CES — Cl. I, Div. 1 & 2, Groups C, D Explosionproof Wet Locations Factory Sealed

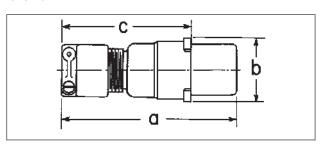
Dimensions In Inches:



g h
b b

CES Cat. # d CES2213 11/32 $7^{7}/_{16}$ 45/8 23/16 33/8 23/4 41/8 5/16 7/8 CES2214 CES4233 12 7 27/8 51/4 $4^{3}/_{8}$ 61/8 7/16 13/₃₂ **1** 1/₈ CES4234

CESD							
Cat. #	а	b	е	f	g	h	j
CESD2213 CESD2214	7 ⁵ / ₈	63/8	41/4	5	17/8	11/32	13/16
CESD4233 CESD4234	131/2	95/8	61/4	71/4	3	13/32	1 3/ ₁₆



CPH			
Cat. #	a	b	С
CPH7713	6	23/8	45/16
CPH7913	67/16	23/8	43/4
CPH7714	6	23/8	45/16
CPH7914	67/16	23/8	43/4
CPH7733	73/4	23/4	5
CPH7933	81/8	23/4	53/8
CPH7734	73/4	31/16	5
CPH7934	81/8	31/16	53/8

CES and CESD Arktite® Receptacles

Delayed Action Circuit Breaking CPH Plugs

CESD - Cl. I, Div. 1 & 2, Group D* CES - Cl. I, Div. 1 & 2, Groups C, D Explosionproof Wet Locations Factory Sealed



CES Receptacles with three hubs – one on each side and one at top – and two pipe plugs with CPH plug fully engaged.



CESD Receptacles with vertical through feed hubs and one pipe plug. Removable threaded cover at top to facilitate pulling wires.

CES/CESD Receptacles

Hub Size (In.)	Circuit	Phase	Max. HP	Max. Amps	Volts at 60 Cycles AC	CES Cat. #	CESD Cat. #
3/4	2-wire, 3-pole	1	1/ ₂ 1 1/ ₂	7 30	480† 120 to 240	CES2213	CESD2213
3/4	3-wire, 4-pole	3	1 3	7 30	480† 120 to 240	CES2214	CESD2214
11/4	2-wire, 3-pole	1	3	30 60	480† 120 to 240	CES4233	CESD4233
11/4	3-wire, 4-pole	3	5	30 60	480† 120 to 240	CES4234	CESD4234



CPH Plugs with mechanical cable grip and neoprene bushing.

CPH Plugs

					Cable Diameter			
Circuit	Phase	Max. HP	Max. Amps	Volts at 60 Cycles AC	.375 to .875	.500 to .875	.875 to 1.375	
2-wire, 3-pole	1	1/ ₂ 1 1/ ₂	7 30	480† 120 to 240	CPH7713		CPH7913	
3-wire, 4-pole	3	1 3	7 30	480† 120 to 240	CPH7714		CPH7914	
2-wire, 3-pole	1	3	30 60	480† 120 to 240		CPH7733	CPH7933	
3-wire, 4-pole	3	5	30 60	480† 120 to 240		CPH7734	CPH7934	

[†]CSA certified units are rated at 600 volts.

^{*}In U.S. CESD are also suitable for Class I, Group C when used with immediately adjacent seals.

Plugs and Receptacles Industrial Heavy Duty Interlocked Non-hazardous

•	0.
Application/Selection see pages 1366–136	<u></u>
Interlocked Receptacle with –	_
Disconnect Switch	
WSR 30, 60, 100A Aluminum see page 136	68
WSRD 30, 60, 100A Sheet Metal see page 136	68
WSRDW 30, 60, 100A Viewing Window see page 136	68
WSRD SM S901 Stainless Steel see pages 1370–137	72
Arktite® Welder Series see page 137	77
Rotary Switch	
CSR 30 & 60A Non-metallic NEMA 4X see pages 1374–137	76
WSQC 30 & 60A Aluminum see page 137	78
Watertight Krydon® NEMA 4X	
NSR 30, 60 & 100A Switch see page 138	81
NBR 30, 60 & 100A Breaker see page 137	

3P Plugs and Receptacles

Industrial Heavy Duty Interlocked Application and Selection

Applications:

- Where extra protection is a requirement; interlocked units provide dead front receptacles; connection cannot be made or broken when unit is under load
- In areas where dirt, moisture, and corrosion are a problem; to supply power for portable electrical equipment and provide safe disconnect means and short circuit protection

Considerations for Selection:

Environmental:

- The environment of the enclosure location in terms of NEMA/EEMAC type required
- Material and construction to withstand rough usage and corrosive atmospheric conditions

Electrical:

- Sufficient current carrying capacity to meet load requirements
- Compatibility with electrical system (new or existing installations)
- Interchangeability of plugs with hazardous and non-hazardous area receptacles

Function:

 Switch vs. circuit breaker See "Quick Selector Chart" below and "Interchangeability Chart" on next page.

Options:

 Special polarity and conduit arrangements are available to meet specific needs. See individual listing pages for details.

Quick Selector Chart

Series	Receptacle Interlocked With	NEMA/EEMAC Rating	Mating Plug	Electrical Characteristics	
CSR	Disconnect switch	3, 4X, 12	APJ/NPJ	Circuit breaker: 30, 60 amp. 600VAC Fusible or non-fusible	Receptacle: 30, 60 amp. 600VAC 3-wire, 4-pole
NBR	Circuit breaker	3, 12	APJ/NPJ	Circuit breaker: 100 amp. frame size 250VDC/600VAC 3-pole	Receptacle: 30, 60, 100 amp. 250VDC/600VAC 3-wire, 3-pole 3-wire, 4-pole
NSR	Disconnect switch	3, 12	APJ/NPJ	Switch: 30, 60, 100 amp. 250VDC/240VAC 600VAC 3-pole Fusible or non-fusible	Receptacle: 30, 60, 100 amp. 250VDC/600VAC 3-wire, 3-pole 3-wire, 4-pole
WSR	Disconnect switch	3R, 4, 12	APJ/NPJ	Switch: 30, 60, 100 amp. 250VDC/240VAC 600VAC 3-pole Fusible or non-fusible	Receptacle: 30, 60, 100 amp. 250VDC/600VAC 3-wire, 3-pole 3-wire, 4-pole
WSRD	Disconnect switch	3R, 12	APJ/NPJ	Switch: 60 amp. 250VDC/240VAC 600VAC 3-pole Fusible or non-fusible	Receptacle: 60 amp. 250VDC/600VAC 3-wire, 3-pole 3-wire, 4-pole

Industrial Heavy Duty Interlocked Interchangeability Chart

Plugs and Receptacles

Interchangeability Chart

Many of the plugs listed in this section can be used interchangeably with receptacles from other sections, both in hazardous and nonhazardous areas, provided electrical rating and style of plug and receptacle are the same. The following table is a summary of possible combinations.

Plugs Shown in Section 3P	Can be Used with these Receptacle Series	Listed in Section	Plug & Receptacle Electrical Rating
AP	AR	1P	200 and 400 amp. 3-wire, 4-pole
APJ/NPJ	AR DBR, EBBR FSQ, EPC, EPCB	1P 4P 4P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
SP	BHR	4P	30, 60, 100 amp. 2-wire, 3-pole 3-wire, 4-pole 4-wire, 5-pole

WSR



Aluminum NEMA 3R, 4, 12

Applications:

- The WSR and WSRD disconnect switches are used as a service outlet for portable or fixed electrical equipment generators, compressors, welders, etc.
- They are designed for use in nonhazardous areas where dust, moisture and corrosion may be a problem.
- · Designed for flush or surface mounting.
- A fusible type switch, when used, also provides short circuit protection.

Features:

WSR and WSRD/WSRDW:

- Switches are NEMA type HD heavy duty 3-pole, with visible blades; a quick make-and-break mechanism with reinforced, positive pressure type blade and jaw construction. Fusible types have fuse clips with steel reinforcing springs of positive pressure type. Pressure connectors are used for wire connectors.
- For maximum safety, the spring door receptacle at the bottom of the unit is mechanically interlocked with the switch operating mechanism. The switch cannot be closed until the plug is fully inserted and the plug cannot be withdrawn or inserted unless the switch is open. With the switch open, accidental plug withdrawal is prevented by the interlock mechanism. Withdrawal can only be accomplished by activation of the interlock release lever located on the receptacle.
- · Enclosures are compact and rectangular in shape with a gasketed, hinged door.
- Enclosure, handle and other exterior parts are corrosion resistant.

WSRD



Sheet Metal NEMA 3R, 12

• The switch enclosure covers are interlocked with the body and operating mechanism and cannot be opened when the plug is engaged and the switch is closed ("ON"). When the switch is open, the switch cannot be put in a closed ("ON") position with the door open.

WSR:

- Mounting lugs may be rotated 90° or moved to the vertical centerline portion for pole mounting.
- Side hinged covers are retained in a closed position by compression spring draw-pull catches, which permit the opening or closing of the cover without tools.
- The switch operating handle may be padlocked in the "ON" or "OFF" position, thereby preventing unauthorized operation of the switch and/or opening of the enclosure. Up to three padlocks may be used. In addition, a unique hinge arrangement has been devised to allow the door of the unit to be padlocked. This feature allows operation while preventing unqualified or unauthorized entry.

Certifications and Compliances:

WSR:

- NEMA 3R, 4, 12 (enclosure)
- UL Standard 98
- cUL Standard C22.2 No. 4

WSRD/WSRDW:

- NEMA 3R, 12
- UL Standard 98
- cUL Standard C22.2 No. 4

WSRDW



Sheet Metal Viewing Window NEMA 3R, 12

Standard Materials:

WSR and WSRD/WSRDW:

- Receptacle housings and plug exteriors - copper-free aluminum
- Insulation (plug and receptacle) fiberglass-reinforced polyester
- Pressure contacts brass
- Crimp/solder contacts leaded red brass

WSR:

- Enclosure copper-free aluminum
- Operating handle copper-free aluminum
- Other exterior parts stainless steel

WSRD/WSRDW:

- Enclosure sheet steel
- Operating handle sheet steel
- Other exterior parts stainless steel

Standard Finishes:

- · Copper-free aluminum WSR enclosure, plug exteriors - natural
- Leaded red brass electro-tin-plate
- Brass natural
- Sheet steel baked grey enamel
- Fiberglass-reinforced polyester natural

Electrical Rating Ranges:

- 3 and 4 pole: fusible or non-fusible: 240 VAC. 250 VDC: 600 VAC
- 30, 60, 100 amperes
 7½ to 75 HP

Options: Description

Suffix

 Interiors rotated 22½° to the right (viewed from face).....

Auxiliary switch, 600 VAC-DC heavy duty pushbutton station rating, can be supplied, and its contacts will close after safety switch contacts open and close before safety switch opens...... \$483

> Crouse-Hinds by **F:T•N**

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WSR, WSRD, WSRDW Interlocked Arktite® Receptacles with **Enclosed Disconnect Switches**

APJ/NPJ Plugs

30, 60, 100A NEMA 3, 3R, 4, 12 Raintight Watertight Corrosion-Resistant UL and cUL Listed

			WSR				WSRD‡■ For viewing window see note 2		
System	Amps	240VAC Conduit 600VAC Opening 250VDC as Sizes§ Cat. #		C HP HP HP HP C Rating Rating	HP HP ting Rating Rating		600VAC 250VDC Cat. #	OC Rating	Max.† HP Rating 600VAC
3-Wire, 3-Pole Style 1, Fusible	30 60 100	1 1½ 1½	WSR3351* WSR6351* WSR10351*	7 ¹ / ₂ 15 30	15 30 60	20 50 75	WSRD3351* WSRD6351* WSRD10351*	15 30 60	20 50 75
3-Wire, 4-Pole Style 2, Fusible	30 60 100	1 1½ 1½	WSR3352* WSR6352* WSR10352*	7 ¹ / ₂ 15 30	15 30 60	20 50 75	WSRD3352* WSRD6352* WSRD10352*	15 30 60	20 50 75
3-Wire, 3-Pole Style 1, Non- fusible	30 60 100	1 1½ 1½	WSR33541 WSR63541 WSR103541	7½ 15 30	15 30 60	20 50 75	WSRD33541 WSRD63541 WSRD103541	15 30 60	20 50 75
3-Wire, 4-Pole Style 2, Non- fusible	30 60 100	1 1½ 1½	WSR33542 WSR63542 WSR103542	7 ¹ / ₂ 15 30	15 30 60	20 50 75	WSRD33542 WSRD63542 WSRD103542	15 30 60	20 50 75

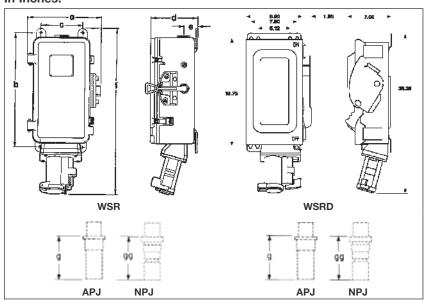
^{*}Arranged for NEC Class H fuses. May be field converted to NEC Class J fuses.

APJ/NPJ Plugs

Amps	Max. Volts	Outside Dia. of Cable, Flexible Conduit or Armored Cable	Style 1†† 3-wire, 3-pole Cat. #	Style 2†† 3-wire, 4-pole Cat. #
30	250 DC 600 AC	0.60 to 1.20 0.55 to .070 0.70 to 0.85	APJ3375	APJ3485 NPJ3483 NPJ3484
60	250 DC 600 AC	0.75 to 1.45 0.75 to 1.07 1.07 to 1.35	APJ6375	APJ6485 NPJ6484 NPJ6485
100	250 DC 600 AC	1.00 to 1.70 0.93 to 1.21 1.21 to 1.50	APJ10377	APJ10487 NPJ10486 NPJ10487

††Style 1 - Grounded through shell. Style 2 - Grounded through extra pole and shell. For a detailed description of these grounding methods, see pages 1312–1313.

Dimensions In Inches:



WSR 30 Amps 60 Amps 100 Amps Dims. 113/4 147/8 b 201/16 201/16 265/16 С 69/16 69/16 99/16 71/4 d 71/4 81/4 215/32 215/32 27/8 е 2711/16 2811/16 353/8 43/4 g 51/4 71/4 $7^{3}/_{4}$ gg 613/16 Mtg. Holes 3/8 ⁷/₁₆

Dim. "g" and "gg" are exposed portion of plug when engaged with receptacle.

WSRD Dims.	60 Amps
g	5 ¹³ / ₁₆
gg	613/16
Mtg. Holes	5/16

Dim. "g" and "gg" are exposed portion of plug when engaged with receptacle.

Arranged for Nez-Class I fuses, lively be removed to obtain one size larger opening. Locknut and bushing used must meet NEC requirements (WSR only). Ratings of unfused and fusible switches with time delay fuses.

Viewing window – add "W" to prefix, i.e.: WSRDW6352.

Conduit entrances not furnished.

Arktite® WSRD SM S901 Stainless Steel Interlocked Receptacles

Fused and Non-fused

30, 60 and 100 Amp Enclosure Type 3, 4, 4X, 12 IP66 UL and cUL Listed Watertight Corrosion-Resistant

WSRD SM S901 Series Stainless Steel Arktite® Interlocked Receptacles

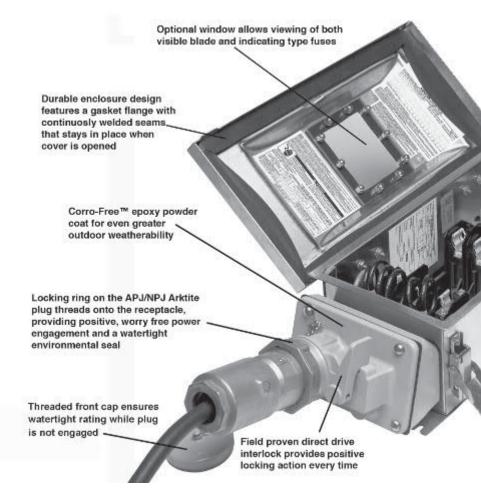
Eaton's Crouse-Hinds Arktite Stainless Steel Interlocks prevent engagement and disengagement of the plug under load, providing safe portable connections and extended product life.

Available in 30–100 Amp in both fused and non-fused versions, the Stainless Steel Interlock is rated Enclosure Type 4X watertight and features an optional viewing window.

Arktite Stainless Steel Interlocked Receptacles:

- Supply power to portable or fixed electrical equipment such as welders, compressors, conveyors, portable tools, lighting systems and similar equipment.
- Are used in damp or corrosive locations.
- Are ideal for use in wet locations and hosedown areas.





Additional Features and Benefits:

- Heavy duty Arktite receptacle is compatible with existing Eaton's Crouse-Hinds Arktite
 plugs of same rating and configuration
- Self-wiping, naval brass contacts in receptacle assure reliable performance and long, dependable life
- Stainless steel interior hardware
- Ground bar supplied as standard and connected to 4th wire in receptacle
- UL and cUL Listed

Ordering Information: 3-Pole, 4-Wire, 600 VAC

Amps	Cat. #	Description	Weight (lbs.)	Eaton's Crouse-Hinds Mating Arktite Plug Cat. #
30	WSRDW3352 SM S901	Fused with Window	24	APJ3485 & NPJ3485
30	WSRD33542 SM S901	Non-fused	22	APJ3485 & NPJ3485
30	WSRDW33542 SM S901	Non-fused with Window	22	APJ3485 & NPJ3485
60	WSRDW6352 SM S901	Fused with Window	30	APJ6485 & NPJ6485
60	WSRD63542 SM S901	Non-fused	29	APJ6485 & NPJ6485
60	WSRDW63542 SM S901	Non-fused with Window	29	APJ6485 & NPJ6485
100	WSRDW10352 SM S901	Fused with Window	36	APJ10487 & NPJ10487
100	WSRD103542 SM S901	Non-fused	35	APJ10487 & NPJ10487
100	WSRDW103542 SM S901	Non-fused with Window	35	APJ10487 & NPJ10487

Crouse-Hinds

Arktite® WSRD SM S901 Stainless Steel Interlocked Receptacles

Fused and Non-fused

30, 60 and 100 Amp Enclosure Type 3, 4, 4X, 12 **IP66** Ul and cUl Listed

Watertight Corrosion-Resistant



Optional window allows viewing of both visible blade and indicating type fuses.



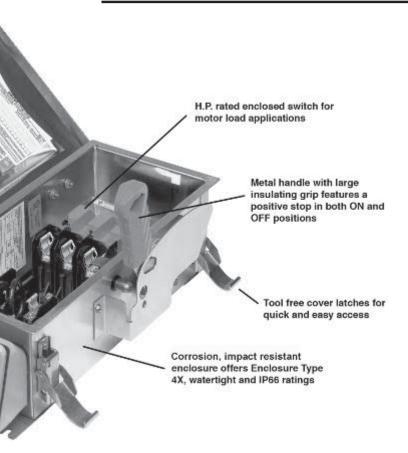
Plug locks into receptacle, providing positive, worry-free power engagement as well as watertight protection.



Complies with OSHA lockout/tagout requirements.



Heavy-duty, epoxy coated cast aluminum receptacle with stainless steel interlocking mechanism for superior durability and corrosion resistance.



Certifications and Compliances:

- UL Listed (UL Standards 98, 1682)
- cUL Listed (Certified by UL to CSA Standards C22.2 Nos. 4, 182.1)
- Enclosure Type 3, 4, 4X, 12
- IP66 Enclosure

Standard Materials:

- Enclosure Type 304 stainless steel
- Hardware stainless steel
- Receptacle Housing aluminum
- Power Contacts naval brass
- Interlock Mechanism stainless steel

Options:

Description	Suffix
Factory Installed Auxiliary Contacts	S483
Rotated Interior (22½° to right)	S4

Standard Finishes:

Aluminum – Corro-free[™] epoxy powder

• Stainless Steel - natural

• Brass - natural

Arktite® WSRD SM S901 Stainless Steel Interlocked Receptacles

30, 60 and 100 Amp Enclosure Type 3, 4, 4X, 12 IP66 UL and cUL Listed

Watertight Corrosion-Resistant

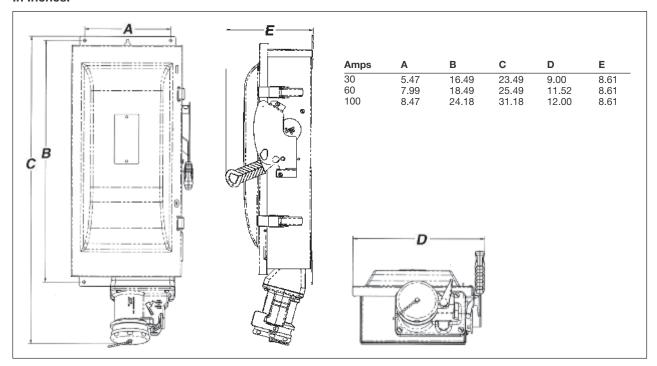
Fused and Non-fused

Horsepower Ratings

			240 VAC	240 VAC	480 VAC	480 VAC	600 VAC	600 VAC	250
Cat. #	Amps	Fusing	(1 PH)	(3 PH)	(1 PH)	(3 PH)	(1 PH)	(3 PH)	VDC
WSRD33542 SM S901	30	Non-fused	5	10	7.5	20	10	30	5
WSRDW33542 SM S901	30	Non-fused	5	10	7.5	20	10	30	5
WSRDW3352 SM S901	30	Fused	1.5 (3)	3 (7.5)	3 (7.5)	5 (15)	3 (10)	7.5 (20)	5
WSRD63542 SM S901	60	Non-fused	10	20	20	50	25	60	10
WSRDW63542 SM S901	60	Non-fused	10	20	20	50	25	60	10
WSRDW6352 SM S901	60	Fused	3 (10)	7.5 (15)	5 (20)	15 (30)	10 (25)	15 (50)	10
WSRD103542 SM S901	100	Non-fused	15	40	30	75	40	100	20
WSRDW103542 SM S901	100	Non-fused	15	40	30	75	40	100	20
WSRDW10352 SM S901	100	Fused	7.5 (15)	15 (30)	10 (30)	25 (60)	15 (40)	30 (75)	20

Dimensions

In Inches:



Values for Non-Fused units are maximum horsepower.

Values for Fused units are standard horsepower with standard fuse and (maximum horsepower with time delay).

Arktite® CSR Series Non-metallic Interlocked Receptacles

Fused and Non-fused

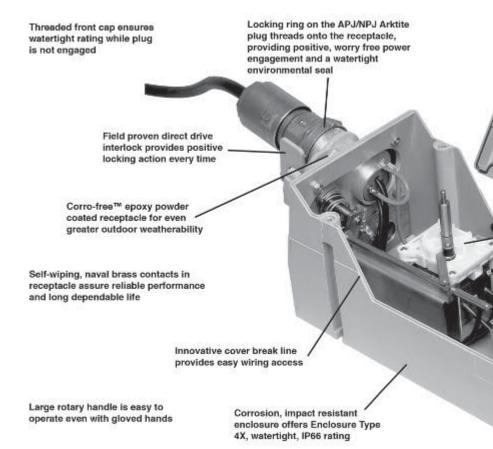
30, 60 and 100 Amp Enclosure Type 3, 4, 4X, 12 IP66 UL and cUL Listed Watertight Corrosion-Resistant

CSR Series Compact Interlocked Arktite® Receptacles

Eaton's Crouse-Hinds interlocked receptacles prevent engagement and disengagement of the plug under load, providing safe portable connections and extended product life.

Arktite Compact Interlocked Receptacles are Used:

- To supply power to portable or fixed electrical equipment such as welders, compressors, conveyors, portable tools, lighting systems and similar equipment.
- In damp or corrosive locations.
- · In wet locations.
- · In hosedown areas.





Additional Features and Benefits:

- Enclosure Type 4X, watertight, IP66.
- Compact enclosure is designed to fit into the web of an I-beam.
- Heavy duty Arktite® receptacle is compatible with existing Eaton's Crouse-Hinds Arktite® plugs of same rating and configuration.
- Eaton's Bussmann CubeFuse™ with Indicator the world's first "finger-safe" industrial power fuse.
- Front mounted handle permits the interlocked receptacles to be easily mounted side by side or in tight spots.
- Molded-in-place mounting feet require only four screws to mount the entire unit.
- UL and cUL Listed.

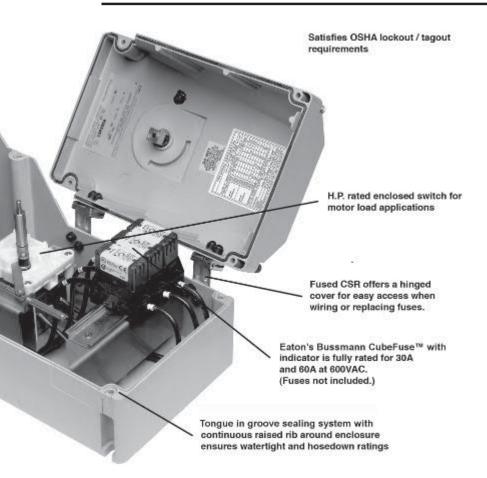
Ordering Information: 600 VAC

Amps	Configuration	Hub Size	Fusing	Cat. #	Mating Cat. #
30	3W, 4P	1"	Fused	CSR3352	APJ3485/NPJ3484
30	3W, 4P	1"	Non-fused	CSR33542	APJ3485/NPJ3484
60	3W, 4P	11/4"	Fused	CSR6352	APJ6485/NPJ6484
60	3W, 4P	11/4"	Non-fused	CSR63542	APJ6485/NPJ6484

Arktite® CSR Series Non-metallic Interlocked Receptacles

Fused and Non-fused

30, 60 and 100 Amp Enclosure Type 3, 4, 4X, 12 UI and cUI Listed



Certifications and Compliances:

- UL Listed (UL Standards 508, 1682)
- cUL Listed (Certified by UL to CSA Standards C22.2 Nos. 14, 182.1)
- Enclosure Type 3, 4, 4X, 12
- IP66 Enclosure

Standard Materials:

- Enclosure fiber reinforced polyester
- Hardware stainless steel
- Receptacle Housing aluminum
- Power Contacts naval brass
- Interlock Mechanism stainless steel
- Zinc Hubs NEMA 4X

Standard Finishes:

- Aluminum Corro-free[™] epoxy powder
- Brass natural

- Stainless Steel natural



Heavy-duty, epoxy coated cast aluminum receptacle with stainless steel interlocking mechanism for superior durability and corrosion resistance.

Options:

Description	Suffix
Factory Installed Auxiliary Contacts	S483
 Rotated Interior (22½° to right) 	S4

Horsepower Ratings:

Amps	250 VAC	480 VAC	600 VAC
30	10 HP	20 HP	25 HP
60	20 HP	40 HP	40 HP

Crouse-Hinds

by **F**:**T·N**



Fully rated for 30A and 60A at 600 VAC. For use with Eaton's Bussmann CubeFuse. Fuses not included.



Plug locks into receptacle, providing positive, worry-free power engagement as well as watertight protection.



Complies with OSHA lockout/ tagout requirements.

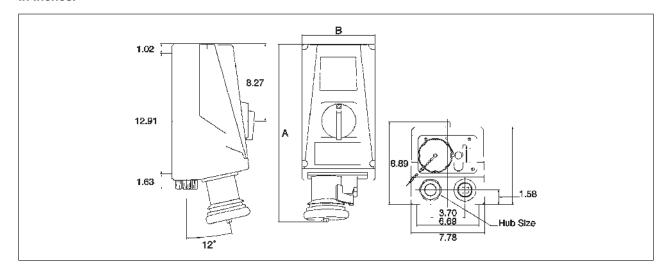
Arktite® CSR Series Non-metallic Interlocked Receptacles

30, 60 and 100 Amp Enclosure Type 3, 4, 4X, 12 IP66 UL and cUL Listed

Watertight Corrosion-Resistant

Fused and Non-fused

Dimensions In Inches:



Amps	Style	Dimension A	Dimension B	Hub Size
30	Fused	18.26	8.00	1"
30	Non-fused	18.26	7.87	1"
60	Fused	19.26	8.00	11/4"
60	Non-fused	19.26	7.87	11/4"

Interlocked Power Modules

Eaton's Crouse-Hinds Interlocked Power Modules are ideal for the harsh, heavy duty environments of welding applications. The Welder Series Power Module is a unique patented design that employs a mechanical interlock linkage system that interfaces with the power receptacle and the built in circuit breaker. It is ideal for protecting the safety of your personnel and your valuable welding equipment.

Applications:

- Ship building yards
- Ports
- · Offshore platform fabrication yards
- Test stations at remote sites
- Military heavy equipment manufacturing

Features:

- Mechanically interlocked to prevent insertion or withdrawal of plug under load
- · Circuit breaker protected
- Stainless steel and die cast construction provides durability and corrosion resistance
- Flanged design for easy panel mounting and flexibility of Power Stand design
- Arktite® receptacle accepts existing Eaton's Crouse-Hinds Arktite die cast and Krydon® plugs of the same rating and configuration

Certifications and Compliances:

- UL/cUL Listed Module
- UL 498 Listed
- CSA Certified Molded Case Circuit

Standard Materials and Finishes:

- Frame, On/Off Rod, Interlock Mechanism, Fasteners - Stainless steel
- Receptacle Housing Die cast aluminum or Krydon
- Power Contacts Naval brass
- Receptacle Insulator Krydon



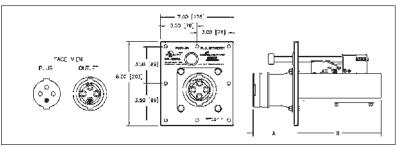
Ordering Information:

3 Wire 4 Pole 480 VAC 22K AIC Rating*

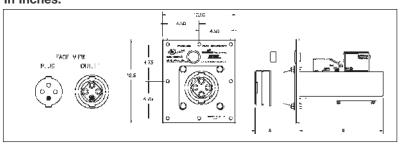
			Dimer	nsions
Amps	Recept.	Cat. #	Α	В
30	Die cast	M4IPM AR342 3048022K	2.8	8.00
30	Krydon	M4IPM NR342 3048022K	3.1	8.00
60	Die cast	M4IPM AR642 6048022K	4.3	8.00
60	Krydon	M4IPM NR642 6048022K	4.5	8.00
100	Die cast	M4IPM AR1042 10048022K	5.3	8.00
100	Krydon	M4IPM NR1042 10048022K	5.6	8.00
200	Die cast	M4IPM AR2042 20048022K	7.3	10.0
200	Die cast	M4IPM AR2042 20060010K	7.3	10.0
200	Die cast	M4IPM AR2042 20060025K	7.3	10.0

^{*65}K AIC rating available, substitute 65K for 22K in catalog number

Dimensions - 30, 60, 100 A In Inches:



Dimensions - 200 A In Inches:



APJ Plugs

Raintight Dust-tight

Applications:

WSQC dead front interlocked receptacles with APJ, NPJ, BP or FP plugs are used:

- To supply power to portable electrical equipment such as hand lamps, lighting systems, power tools, conveyors, welders, compressors, etc.
- In damp, wet or corrosive locations
- Indoors or outdoors in non-hazardous areas
- In locations where mounting area is confined and compact equipment is required

Features:

- NEMA 3R, 12
- · Rainproof, dust-tight
- Available in 30 and 60 amps
- · Horsepower rated switch
- Smallest footprint for interlocked receptacles
- Padlockable in OFF position; meets OSHA lockout/tagout requirements
- Compatible with Arktite® APJ aluminum and NPJ Krydon® material non-metallic plugs

Certifications and Compliances:

- NEMA 3R, 12
- CSA Standard: C22.2 No. 14, 182.1
- UL and cUL Listed

Standard Materials:

- Enclosure copper-free aluminum
- Cover and spring door copper-free aluminum
- Insulator Krydon® material
- Contacts brass
- Cover gasket neoprene

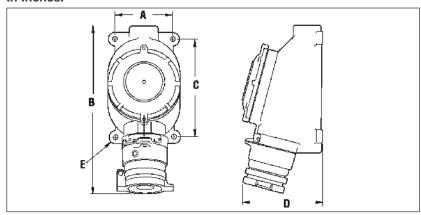


30 and 60A

NEMA 3R. 12

600 VAC

Dimensions In Inches:



Amps	Α	В	С	D	E
30A	31//8	93/4	_	53/4	3/8
60A	5	147/16	81/2	7	13/32

Horsepower Ratings:

	Single Phase					Three	Phase	
Amps	120V	240V	480 V	600V	120V	240V	480 V	600V
30A	2	5	71/2	71/2	3	71/2	15	15
60A		10	25	30		10	25	30

Ordering Information:

Amps	Hub	Config.	Cat. #
30A 60A	3/4"	2W3P	WSQC2330
	1"	2W3P	WSQC3330
	3/4"	3W4P	WSQC2340
	1"	3W4P	WSQC3340
	1 ½"	2W3P	WSQC5630
	11/2"	3W4P	WSQC5640

Options:

Description	Suffix
Interior rotated 22½° to the right (viewed from face)ex: WSQC5640 S4	.S4

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NBR Arktite® Interlocked Receptacles with Enclosed Circuit Breakers

NEMA 3, 3R, 4*, 4X*, 12 Watertight Corrosion-Resistant

APJ/NPJ Arktite Plugs

Applications:

NBR Arktite interlocked receptacles with enclosed circuit breakers are used:

- To supply power and provide short circuit protection, thermal overload protection, and a disconnect means for portable electrical equipment such as motor generator sets, compressors, conveyors, and other similar equipment
- In locations where corrosion is present such as in offshore and marine locations, pulp and paper mills, chemical plants, food processing, and sewage treatment plants
- Indoors and outdoors in damp, wet or hosedown locations

Features:

- Enclosures are made of Krydon® high impact strength fiberglass-reinforced polyester material having excellent resistance to corrosion and heat
- Receptacles are mechanically interlocked with circuit breakers which provide a disconnect means, short circuit protection, and thermal time delay overload protection
- For maximum safety, the spring door receptacle at the bottom is mechanically interlocked with the circuit breaker operating mechanism. The circuit breaker cannot be closed until the plug is fully inserted and the plug cannot be withdrawn unless the breaker is open
- Enclosure has hinged access door for easy wiring and maintenance. Three screws, hidden behind access door in door frame, prevent disassembly when door is locked
- Enclosure access door is mechanically interlocked with operating handle and cannot be opened unless operating handle operator is in "OFF" position
- A Krydon material hub (not mounted) is supplied with each enclosure as follows:

Rating	Hub Size (In.)	Cat. #
30A	3/4	NHUB2
60A	11/4	NHUB4
100A	2	NHUB6

For alternate hub sizes, see page 677

- Receptacle has self-closing spring door assembly to provide environmental protection
- Operating handle can be padlocked in "OFF" position. Breaker is trip-free of handle and will open under short circuit or overload when handle is in the "ON" position
- Provided with top and bottom mounting feet which may be rotated 90° to vertical or horizontal mounting positions

Certifications and Compliances:

- NEMA 3, 3R, 4*, 4X*, 12
- ANSI/UL Standard: 489
- UL Standard: 1682
- CSA

Standard Materials:

- Enclosure, covers and operating handles
 Krydon fiberglass-reinforced polyester material
- Operating shafts stainless steel
- Receptacle housings copper-free aluminum
- Receptacle insulators Krydon material
- Crimp/solder contacts leaded red brass

Standard Finishes:

- Copper-free aluminum baked on powder epoxy
- Stainless steel natural
- Enclosure natural
- Receptacle insulators natural (red)
- Brass natural
- Leaded red brass electro-tin-plated

Electrical Rating Range:

- Receptacles 30, 60 and 100 amperes
- Circuit Breakers 100 ampere frame size

Note: For additional dimensional data, see page 510, enclosure catalog number NCB1024.

Options:

Description



Interchangeability of Plugs With Other Non-hazardous and Hazardous Location Receptacles:

- Plugs listed for use with NBR assemblies are standard Arktite APJ/NPJ plugs. Other standard APJ/NPJ and CPH plugs of the same rating, style and number of poles may be used with NBR receptacles, as well as EBBR, EPC and EPCB receptacles listed in Section 4P
- Portable equipment, suitable for the locations and equipped with the proper plug, can be used with non-hazardous rated AR receptacles, DBR and WSR interlocked receptacles located in nonhazardous locations, with EBBR, EPC and EPCB receptacles for Class I, Groups B, C, D hazardous locations, with DR and DBR interlocked receptacles for Class II, Groups F, G hazardous locations, and with NBR/NSR interlocked receptacles for wet and corrosive locations

*30 and 60A Style 2 only.

Suffix

NBR Arktite® Interlocked Receptacles with Enclosed Circuit Breakers

3-Pole, 600 VAC NEMA 3, 3R, 4, 4X, 12 Watertight Corrosion-Resistant

APJ/NPJ Arktite Plugs▲

100 Ampere	Frame Size	with No	on-interchan	geable	Trip‡§
------------	------------	---------	--------------	--------	--------

•	Enclos	ure		9 110
Receptacle With Spring Door Housing	Hub Size (In.)	Ckt. Brkr. Amps	Without Circuit Breaker Cat. #	With Cutler-Hammer Circuit Breaker Cat. #
Style 1†				
30 amp., 3-wire, 3-pole	3/4	20 30 40 50	NBR53731	NBR53731 WT20 3 NBR53731 WT30 3 NBR53731 WT40 3* NBR53731 WT50 3*
60 amp., 3-wire, 3-pole	11/4	50 60 70 90 100	NBR56731	NBR56731 WT50 3 NBR56731 WT60 3 NBR56731 WT70 3* NBR56731 WT90 3* NBR56731 WT100 3*
100 amp., 3-wire, 3-pole	2	60 70 90 100	NBR51731	NBR51731 WT60 3 NBR51731 WT70 3 NBR51731 WT90 3 NBR51731 WT100 3
Style 2†				
30 amp., 3-wire, 4-pole	3/4	20 30 40 50	NBR53742	NBR53742 WT20 3 NBR53742 WT30 3 NBR53742 WT40 3* NBR53742 WT50 3*
60 amp., 3-wire, 4-pole	11/4	50 60 70 90 100	NBR56742	NBR56742 WT50 3 NBR56742 WT60 3 NBR56742 WT70 3* NBR56742 WT90 3* NBR56742 WT100 3*
100 amp., 3-wire, 4-pole	2	60 70 90 100	NBR51742	NBR51742 WT60 3 NBR51742 WT70 3 NBR51742 WT90 3 NBR51742 WT100 3

*Circuit breaker trip rating may exceed receptacle rating for welding equipment applications only, as higher trip rating may

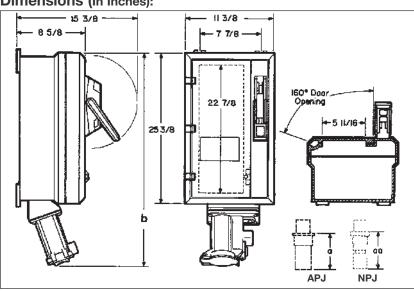
not protect wiring.
†Style 1 – Grounded through shell. Style 2 – Grounded through extra pole and shell. For a detailed description of these grounding methods, see page 1314.

\$Also available with interchangeable trip breakers. Specify on order.

‡ For detailed information on circuit breaker selection, see Section 3C.

▲ Pressure connectors are standard. Crimp/solder type terminators are optionally available for 3 and 4-pole 30, 60 and 100 ampere. For details, see page 1316. To specify, add the suffix "T" to the catalog number. For example: APJ3375-T (Plug).

Dimensions (In Inches):



APJ/NPJ Plugs 600 VAC With Cable Grip and Neoprene **Bushing**



APJ



NPJ

Amps	Cable O.D. Range	Style 1† 3-wire, 3-pole Cat. #	Style 2† 3-wire, 4-pole Cat. #
	0.60 to 1.20	APJ3375	APJ3485
30	0.55 to 0.70		NPJ3483
	0.70 to 0.85		NPJ3484
	0.75 to 1.45	APJ6375	APJ6485
60	0.75 to 1.07		NPJ6484
	1.07 to 1.35		NPJ6485
	1.00 to 1.70	APJ10377	APJ10487
100	0.93 to 1.21		NPJ10486
	1.21 to 1.50		NPJ10487

Amps	b	а	aa
30	313/8	413/16	7
60	33	5 ¹³ / ₁₆	613/16
100	333/4	65/。	73/4

Dim. "a" and "aa" are exposed portion of plug when engaged with receptacle

NEMA 3, 3R, 4*, 4X*, 12 Watertight Corrosion-Resistant

NSR Arktite® Interlocked Receptacles With Enclosed Disconnect Switches

APJ/NPJ Arktite Plugs

Applications:

NSR Arktite interlocked receptacles with enclosed disconnect switches are used:

- To provide a power disconnect for fixed or portable electrical equipment such as welders, generators and compressors where the switch will be subject to frequent operation
- To provide short circuit protection when a fusible switch is needed
- In non-hazardous indoor or outdoor areas where corrosion, dust, hosedown and moisture may be a problem such as in offshore and marine locations, pulp and paper mills, chemical plants, sewage treatment plants and food processing facilities

Features:

- Enclosures are made of Krydon® high impact strength fiberglass-reinforced polyester material having excellent resistance to corrosion and heat
- Switches are NEMA type HD heavy duty 3-pole, enclosed blade; a quick makeand-break mechanism with reinforced, positive pressure type blade and jaw construction. Fusible switches have fuse clips with steel reinforcing springs
- For maximum safety, the spring door receptacle at the bottom is mechanically interlocked with the switch operating mechanism. The switch cannot be closed until the plug is fully inserted and the plug cannot be withdrawn unless the switch is open
- Switch enclosure access door is mechanically interlocked with switch and cannot be opened unless switch operator is in "OFF" position
- Enclosure has hinged access door for easy wiring and maintenance. Three screws, located behind access door in door frame, prevent disassembly when door is locked
- A Krydon material hub (not mounted) is supplied with each enclosure as follows:

Rating	Hub Size (In.)	Cat. #
30A	3/4	NHUB2
60A	11/4	NHUB4
100A	2	NHUB6

For alternate hub sizes, see page 677

- Receptacle has self-closing spring door assembly to provide environmental protection
- Mounting feet may be rotated 90° to horizontal or vertical mounting positions
- Switch operating handle may be padlocked in the "OFF" position, preventing unauthorized operation of the switch

Certifications and Compliances:

- NEMA 3, 3R, 4*, 4X*, 12
- UL Standard: 1682, 98



Interchangeability of Plugs With Other Non-hazardous and Hazardous Location Receptacles:

- Plugs listed for use with NSR assemblies are standard *Arktite* APJ/NPJ plugs.
 - Other standard APJ/NPJ and CPH plugs of the same rating, style and number of poles may be used with NSR receptacles, as well as with EBBR, EPC and EPCB receptacles listed in Section 4P
- Portable equipment, suitable for the locations and equipped with the proper plug, can be used with non-hazardous rated AR receptacles, DBR and WSR interlocked receptacles located in nonhazardous locations, with EBBR, EPC and EPCB receptacles for Class I, Groups B, C, D hazardous locations, with DR and DBR interlocked receptacles for Class II, Groups F, G hazardous locations, and with NBR/NSR interlocked receptacles for wet and corrosive locations

Standard Materials:

- Receptacle housings copper-free aluminum
- Insulators (plug and receptacle) Krydon material
- Crimp/solder contacts leaded red brass
- Enclosure and operating handle Krydon fiberglass-reinforced polyester material
- Other exterior parts stainless steel



Standard Finishes:

- Copper-free aluminum baked-on powder epoxy
- Stainless steel natural
- Leaded red brass electro-tin-plated
- Enclosure natural (gray)
- Insulator (plug and receptacle) natural (red)

Options:

Description

Suffix

Special polarity – for use where two or more receptacles for the same ampere rating, style and number of poles are to be installed in the same area for use on different voltages. Receptacle interior rotated 22½° to right (viewed from face) and matching plug

Hubs for other conduit sizes can be supplied. See page 677.

S4

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*30 and 60A Style 2 only.

NSR Arktite® Interlocked Receptacles With Enclosed Disconnect Switches

APJ/NPJ Arktite Plugs††

240 and 600 VAC 250 VDC NEMA 3, 3R, 4, 4X, 12 Watertight Corrosion-Resistant

		240VAC/250VDC			600VAC/250VDC				
Amps	Conduit Opening Sizes§	Style 1† 3-wire, 3-pole Cat. #	Style 2† 3-wire, 4-pole Cat. #	AC HP Rating	DC HP Rating	Style 1† 3-wire, 3-pole Cat. #	Style 2† 3-wire, 4-pole Cat. #	AC HP Rating	DC HP Rating
Fusible									
30	3/4	NSR331#	NSR332‡	3	5	NSR3351*	NSR3352*	71/2	5
60	11/4	NSR631±	NSR632±	5	10	NSR6351*	NSR6352*	20	10
100	2	NSR1031‡	NSR1032‡	10	20	NSR10351*	NSR10352*	30	20
Non-Fus	ible								
30	3/4	NSR3341	NSR3342	71/2	5	NSR33541	NSR33542	20	5
60	11/4	NSR6341	NSR6342	20	10	NSR63541	NSR63542	50	10
100	2	NSR10341	NSR10342	30	20	NSR103541	NSR103542	75	20

APJ/NPJ Plugs 600VAC/250VDC, with Cable Grip and Neoprene **Bushing**

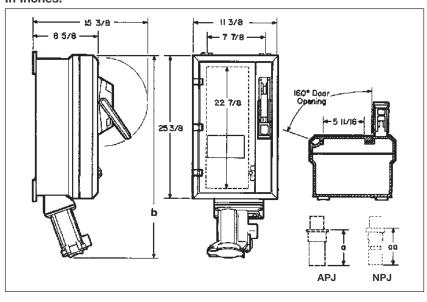


Amps	Cable O.D. Range	Style 1† 3-wire, 3-pole Cat. #	Style 2† 3-wire, 4-pole Cat. #
30	0.60 to 1.20 0.55 to 0.70 0.70 to 0.85	APJ3375	APJ3485 NPJ3483 NPJ3484
60	0.75 to 1.45 0.75 to 1.07 1.07 to 1.35	APJ6375	APJ6485 NPJ6484 NPJ6485
100	1.00 to 1.70 0.93 to 1.21 1.21 to 1.50	APJ10377	APJ10487 NPJ10486 NPJ10487

*Arranged for NEC Class H fuses. May be field converted to NEC Class J fuses. ‡Fuse clips accommodate NEC Class H fuses. For NEC Class J fuses, use 600V switches. †Style 1 – Grounded through shell. Style 2 – Grounded through extra pole and shell. For a detailed description of these grounding methods, see page 1314. \$For alternate hub sizes, refer to catalog page 856.

††Pressure connectors are supplied as standard. To specify crimp/solder type terminators add the suffix "T" to the catalog number. For example: APJ3375-T (Plug).

Dimensions In Inches:



Amps	b	а	aa	
30	313/8	413/16	7	
60	33	5 ¹³ / ₁₆	613/16	
100	333/4	6 ⁵ / ₈	73/4	

Dim. "a" and "aa" are exposed portion of plug when

Plugs and Receptacles Industrial Heavy Duty Interlocked Hazardous

Description	Page No.
Application/Selection	see pages 1384-1385
Interlocked Receptacle with -	
H.P. Rated Switch	
Technical Data	see pages 1386-1387
FSQC 30A & 60A / APJ Plugs	see pages 1386-1387
FSQC 100A / APJ Plugs	see page 1388
Factory Sealed Switch	
BHR 30A, 60A & 100A / BHP Plugs	see pages 1392-1393
SRD 30A & 60A / SP Plugs	see page 1394
Circuit Breaker	
EBBR 30A, 60A, 100A	see pages 1389-1391
EPC, 30A, 60A, 100A, 200A	see page 1396
EPCB 30A, 60A, 100A	see page 1399
DBR 30A, 60A, 100A	see page 1401

4P Plugs and Receptacles

Industrial Heavy Duty Interlocked Application and Selection Hazardous

Applications:

- Where extra protection is a requirement. Interlocked units provide dead front receptacles; connection cannot be made or broken when unit is under load.
- In areas made hazardous by flammable vapors, gases or dusts; to supply power for portable electrical equipment and provide safe disconnect means and short circuit protection.

Considerations for Selection:

Environmental:

- The environment of the enclosure location in terms of NEC/CEC compliance and NEMA/EEMAC type required.
- Material and construction to withstand rough usage and atmospheric conditions.

Electrical:

- Sufficient current-carrying capacity to meet load requirements.
- Compatibility with electrical system (new or existing installation).
- Interchangeability of plugs with other hazardous and non-hazardous area receptacles.

Function:

· Switch vs. circuit breaker.

Options:

 Special polarity arrangements, material options, accessories, and optional arrangements of enclosure interiors are available to meet specific application needs. See listing pages for details.

Quick Selector Chart

Series	NEC/CEC & NEMA/EEMAC Compliances	Receptacles Interlocked With	Page	Mating Plugs	Electrical Rating
BHR	Class I, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Groups F, G Class III NEMA: 3, 4, 7BCD, 9FG, 12	Factory sealed switch	See pages 1392-1393	ВНР	30, 60, 100 amp. 480VAC 2-wire, 3-pole 3-wire, 4-pole 4-wire, 5-pole
DBR	NEC: Class II, Division 1 and 2, Groups F, G NEC: Class III NEMA/EFC: 3, 9FG, 12 CEC: Class II, Division 1 and 2, Group G CEC: Class III Encl. 3, 5	Circuit breaker	See page 1401	APJ/NPJ	Circuit breaker: 100 amp. frame size 250VDC/600VAC Receptacle: 30, 60, 100 amp. 2-wire, 3-pole 3-wire, 3-pole 3-wire, 4-pole
EBBR	Class I, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Groups F, G Class III NEMA 3, 3R, 7BCD, 9FG, 12	Circuit breaker	See pages 1389-1391	APJ/NPJ	Receptacle: 30, 60, 100, 150 amp. 3-wire, 4-pole
EPC	NEC: Class I, Division 1 and 2, Groups C, D NEC: Class II, Division 1 and 2, Groups F, G NEC: Class III NEMA: 3, 7CD, 9FG, 12 CEC: Class I, Division 1 and 2, Groups C, D CEC: Class II, Division 1 and 2, Group G CEC: Class III Encl. 3, 4	Circuit breaker	See pages 1396–1398	APJ/NPJ	Circuit breaker: 100 amp. frame size 480VAC/250VDC Receptacle: 30, 60, 100 amp. 2-wire, 3-pole 3-wire, 4-pole
EPC	Class I, Division 1 and 2, Group D Class II, Division 1 and 2, Groups F, G Class III NEMA: 3, 7D, 9FG, 12	Circuit breaker	See pages 1396–1398	DP	Circuit breaker: 225 amp. frame size 600VAC/250VDC Receptacle: 200 amp. 3-wire, 4-pole
EPCB	NEC: Class I, Division 1 and 2, Groups B, C, D NEC: Class II, Division 1 and 2, Groups F, G NEC: Class III NEMA: 3, 7BCD, 9FG, 12 CEC: Class I, Division 1 and 2, Groups B, C, D CEC: Class II, Division 1 and 2, Group G CEC: Class III Encl. 3, 4	Circuit breaker	See page 1399	APJ/NPJ	Circuit breaker: 100 amp. frame size 600VAC/250VDC Receptacle: 30, 60, 100 amp. 2-wire, 3-pole 3-wire, 4-pole

Plugs and Receptacles

Industrial Heavy Duty Interlocked Quick Selector and Interchangeability Chart Hazardous

Quick Selector Chart

Series	NEC/CEC & NEMA/EEMAC Compliances	Receptacles Interlocked With	Page	Mating Plugs	Electrical Rating
FSQ	NEC: Class I, Division 1 and 2, Groups B, C, D NEC: Class II, Division 1 and 2, Groups F, G NEC: Class III NEMA: 3, 7BCD, 9FG, 12 CEC: Class I, Division 1 and 2, Groups B, C, D CEC: Class II, Division 1 and 2, Groups G CEC: Class III Encl. 3, 5	Switch	See pages 1386–1388	APJ/NPJ	30A 250V/20A 600VAC 2-wire, 3-pole 3-wire, 4-pole 60 & 100 amp. 2-wire, 3-pole 3-wire, 4-pole
SRD	Class I, Division 1 and 2, Group D Class II, Division 1 and 2, Groups F, G Class III NEMA: 3, 7D, 9FG, 12	Factory sealed switch	See pages 1394–1395	5P	30 & 60 amp. 480VAC 2-wire, 3-pole 3-wire, 4-pole 4-wire, 5-pole

Interchangeability Chart

Many of the plugs listed in this section can be used interchangeably with receptacles from other sections, both in hazardous and non-hazardous areas, provided electrical rating and style of plug and receptacle are the same. The following table is a summary of possible combinations.

Plugs Shown in Section 4P	Can be Used with These Receptacle Series	Listed in Section	Plug & Receptacle Electrical Rating
APJ/NPJ	AR, NR EPC, EPCB, DBR, EBBR, CSR, FSQC	1P 4P	30, 60, 100 amp. 3-wire, 4-pole
	NBR, NSR, WSR, CSR, WSRD, WSRDW, WSQC, WSRD SM S901	3P	30, 60, 100 amp. 3-wire, 3-pole 3-wire, 4-pole
ВНР	BHR SRD	4P	30, 60, 100 amp. 2-wire, 3-pole 3-wire, 4-pole 4-wire, 5-pole
SP	BHR SRD	4P	30, 60 amp. 2-wire, 3-pole 3-wire, 4-pole 4-wire, 5-pole

CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.



FSQC Arktite® Dead Front Interlocked Receptacles and Switches

APJ/NPJ Arktite Plugs

Cl. I, Div. 1 and 2, Groups B, C, D
Cl. II, Div. 1 and 2, Groups F, G
Cl. III

NEMA/EEMAC 3, 7BCD, 9FG, 12

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Applications:

FSQC dead front switched interlock receptacles are used:

- To supply power to portable electrical equipment such as hand lamps, lighting systems, power tools, conveyors, welders and similar equipment.
- In areas which are hazardous due to the presence of flammable vapors or gases and combustible dusts.
- In damp, wet or corrosive locations.
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants and facilities for processing and handling grain, flour and starch.

Features:

- Compatible with Arktite® APJ aluminum and NPJ Krydon® plugs
- Switch cannot be turned "ON" until plug is fully inserted and rotated
- Plug cannot be withdrawn under load
- Cover cannot be removed when switch is "ON"
- · Satisfies OSHA lockout tagout requirement
- Smallest mounting footprint for interlocks

Certifications and Compliances:

- NEMA 3, 7BCD, 9FG, 12
- NEC/CEC:

Class I, Division 1 & 2, Groups B, C, D Class I, Zone 1, Group IIB + Hydrogen Class II, Division 1 & 2, Groups F, G Class III

- ANSI/UL Standards: 1010 UL Listed
- CSA Standards: C22.2 No. 30 cUL Listed & C22.2 No. 159

Materials:

- Enclosure copper-free aluminum
- Cover and spring door copper-free aluminum
- Insulator Krydon®
- Contacts brass



Options:

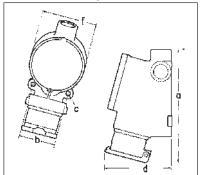
Description	Suffix
Special polarity, receptacle	
interior rotated 221/2°	S4

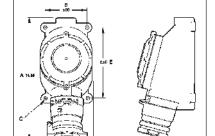
Interchangeability of Plugs with Other Hazardous and Non-hazardous Location Receptacles:

- Plugs listed for FSQC receptacles on 1043 are standard APJ/NPJ plugs. Other standard APJ/NPJ of the same rating, style and number of poles may be used with FSQC receptacles as well as with DBR, EBBR, EPC and EPCB receptacles listed in Section 2P and 4P.
- As a result, portable equipment suitable for the location and equipped with the proper plug can be used with AR series receptacles for non-hazardous areas, EBBR, EPC, EPCB, and FSQC receptacles for Class I hazardous locations; DBR receptacles for Class II hazardous locations.

Dimensions In Inches:

30 Amp FSQC





60 Amp FSQC

Dimensions

	Maximum	Maximum Dimensions						
	а	b	С	d	е	f		
30A	10.00	3.12	Ø .38	5.75	N/A	4.75	_	
60A	14.56	5.00	Ø .41	7.00	8.50	6.35		

4P

FSQC Arktite® Dead Front Interlocked Receptacles and Switches

APJ/NPJ Arktite Plugs

Cl. I, Div. 1 and 2, Groups B, C, D Cl. II, Div. 1 and 2, Groups F, G Cl. III NEMA/EEMAC 3, 7BCD, 9FG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

FSQC ReceptaclesWith Spring Door Through Feed Hubs

Horsepower Rating:

	Single Phase							
Amps	120V	240V	480V	600V				
30A	2	5	71/2	71/2				
60A	_	10	25	30				
	I	Three Phase						
Amps	120V	240V	480V	600V				
30A	3	71/2	15	15				
60A	_	10	25	30				



Ordering Information:

•										
Amps	Hub	Config.	Description	Cat. #	Matching Plug					
	3/4"	2W3P	2-Pole Switch	FSQC2320	APJ3385					
004	-/4	3W4P	3-Pole Switch	FSQC2430	APJ3485					
30A	4.11	2W3P	2-Pole Switch	FSQC3320	APJ3385					
	ı	3W4P	3-Pole Switch	FSQC3430	APJ3485					
COA	41/11	2W3P	2-Pole Switch	FSQC5630	APJ6385					
60A	11/2"	3W4P	3-Pole Switch	FSQC5640	APJ6485					

FSQC for Use with Magnetic Motor Starters or Contactors

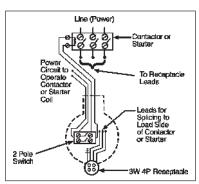
FSQC units listed below operate in the same way as standard units but are intended *only for* use with magnetic motor starters or contactors (see Wiring Diagram 1).

Receptacles have leads for splicing to conductors from the load side of contactor. The switch actuated by the plug is wired into the starter or contactor coil circuit and controls only this circuit. The starter or contactor is energized only when the plug is fully inserted and rotated to close the switch. Since the plug is inserted or withdrawn only when the switch is open, the circuit cannot be made or broken under the load.

Plugs used are standard APJ units and special polarity units listed are recommended where interchange with devices for other wiring systems is possible.

FSQC Receptacles With Spring Door Through Feed Hubs

No. of Poles	Hub Size	Receptacle Cat. #	Cable Dia.	Mating Plug Cat. #
Standard C 3W, 4P 3W, 4P 3W, 4P	onfiguratio 3/ ₄ 1 1	FSQC2390 FSQC3390) 0.39-1.20 0.55-0.70 0.70-0.85	APJ3485 NPJ3483 NPJ3484
Special Pola 3W, 4P 3W, 4P	arity Confi 3/4 1	guration FSQC2390 S4 FSQC3390 S4) 0.39-1.20 0.55-0.70 0.70-0.85	APJ3485 S4 NPJ3483 S4 NPJ3484 S4



Wiring Diagram 1 FSQC2390 and 3390 only

NEMA 4 Watertight

NEMA 3, 3R, 4, 4X*, 7BCD, 9FG, 12 Explosion proof

Applications:

- To supply power to portable or fixed electrical equipment such as welders, pumps, motors, machine tools, conveyors, oil rigs, mixers, grain elevators, petroleum refineries, chemical and petrochemical plants
- In hazardous areas containing flammable vapors or gases and combustible dusts
- In damp, wet or hosedown environments
- In highly corrosive locations

Features:

- NEMA Type 4 watertight
- · Suitable for Group B
- · Compact housing
- Simple operation
- Compatible with Arktite® APJ aluminium and NPJ Krydon® plugs
- · H.P.-rated enclosed switch
- 4 mounting feet can be rotated for flexibility in positioning to surface
- Wiring channel provided under switch for easy wire routing to terminals
- Dual bottom-feed hubs and one top hub for convenient feed-through installation
- Break-loose fork lugs case in place for easy removal of cover

Certifications and Compliances:

- NEMA 3, 3R, 4, 4X*, 7BCD, 12
 Class I, Divisions 1 and 2, Groups B, C, D
 Class I, Zone 1, Group IIB + H₂
 Class II, Divisions 1 and 2, Groups F, G
 Class III
- ANSI/UL Standards: 1010 and 98 UL Listed
- cUL Listed, CSA Standard C22.2 No. 30, C22.2 No. 159

*NEMA 4X when ordered with suffix S752.

Materials:

- Body copper-free aluminum
- Cover copper-free aluminum
- Locking collar Feraloy® iron alloy
- Insulator Krydon® material
- Contacts brass

Options:

Description Suffix

- Special polarity receptacle interior rotated 22½° to right.........S4 (example: FSQC61040 S4)
- NEMA 4X epoxy powder coated S752 (example: FSQC61040 S752)

Safety First:

- Power cannot be turned "on" until plug is fully inserted and Uni-Loc collar is rotated
- When Uni-Loc collar is in "on" position, plug is locked in place to prevent disengagement under load
- Cover cannot be removed while switch is "on"
- Cover-Loc™ design prevents switch from being turned "on" while cover is removed
- Uni-Loc collar aligns with lug on housing to permit OSHA lockout/tagout in the "off" position

Electrical Rating:

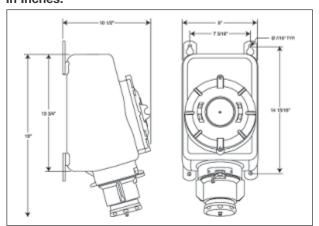
• 100A, 600VAC

Ordering Information:

Hub HP

Rating Config. Size Rating Cat. #

Dimensions In Inches:





4F

EBBR Series Interlocked Arktite® Receptacles with Circuit Breakers

30, 60, 100 Amp Interlocked Receptacles

Cl. I, Div. 1 and 2, Groups B, C, D Cl. II, Div. 1 and 2, Groups F†, G Cl. III NEMA 3, 3R, 7BCD, 9FG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

EBBR interlocked receptacles with circuit breakers are used:

- As a service outlet for portable equipment – indoors or outdoors – in damp, wet, corrosive locations, without the need for a protective shelter.
- In areas which are hazardous due to flammable vapors, gases or combustible dust, e.g., refineries, chemical plants, and other processing and handling facilities of a hazardous nature.
- In areas where frequent washdowns are necessary or where heavy rain or water spray is prevalent.

Features:

- Rugged, corrosion resistant, cast copper-free aluminum construction.
- Accepts compatible Arktite plug of same rating and configuration.
- Mechanical interlock mechanism for dead front construction.
- Receptacles are mechanically interlocked with circuit breakers to provide disconnect means, short circuit protection and thermal time delay overload protection.
- A spring door receptacle, located at the bottom of the unit, is mechanically interlocked with the circuit breaker operating mechanism for safe and dependable operation.
- Plug and receptacle contacts cannot be made or broken under load. The circuit breaker cannot be closed until the plug is fully inserted and the plug cannot be withdrawn unless the breaker is de-energized.
- Operating handles can be padlocked in either "ON" or "OFF" positions. Breakers are trip-free of the handles and will open under short circuit or overload even if the handle is locked in the "ON" position.
- Component operating handles located through the right side wall of the body permits visual confirmation of correct component assembly and operation.
- Total compliance to the wiring and room requirements of the National Electrical Code[®].
- Semi-clamshell enclosure design, with an external machined flat joint flamepath between body and cover makes interior components easily accessible.
- Minimum enclosure-to-enclosure spacing with little interference between the opened cover and an adjacent enclosure.
- Copper-free aluminum hinges allow the cover to swing well out of the way.
- Stainless steel, quick release, captive, hex head cover bolts. Stainless steel springs provide clear indication cover bolts are fully retracted from body.
- Versatile, internal operating mechanisms allow for field adjustment to accommodate popular manufacturers' breakers.



- Simple, straightforward installation of breaker on pre-drilled mounting plate within enclosure.
- Neoprene cover gasket permanently attached to the cover seals out moisture.
- Bodies have top drilled and tapped entrance for power conduit (1½") plus one at the top and one at the bottom for a breather and drain (½"). Breather and drain entrances are plugged.
- Tap-on mounting feet.

Certifications and Compliances:

• NEC:

Class I, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Groups F†, G Class III

- NEMA: 3, 3R, 7BCD, 9FG, 12
- UL Standard: 1203

Standard Materials:

- Body, cover, and receptacle copperfree aluminum
- Contact insulator (receptacles and plugs) – fiberglass-reinforced polyester
- Receptacle contacts leaded red brass
- Pressure contacts (plugs) brass
- Operating handle copper-free aluminum
- Operating shafts and bushings stainless steel
- Interior parts heavy gauge sheet steel, zinc plated
- Cover bolts, washer and retractile springs – stainless steel

Standard Finishes:

- Copper-free aluminum natural
- Fiberglass-reinforced polyester natural (red)
- Brass natural
- Leaded red brass electro-tin-plated
- Stainless steel natural

Electrical Rating Ranges:

- Circuit breakers 20-150 amps
- Receptacles 30, 60, 100, 150 amp
- 3-wire, 4-pole configuration

Options:

The following options are available from the factory by adding suffix to the Cat. #: Description Suffix

- Receptacle interior rotated 22¹/₂° to right (viewed from face) and plug changed to match.....S4
 - Group B Breather and Drain.......**\$756V**
- External Powder Epoxy Finish..... \$752
 Aux. switch on circuit breaker,
- 1A & 1B contacts......**S78**4

Grounding:

 EBBR interlocked receptacles and matching plugs are provided with an extra grounding pole for attaching a grounding wire. In addition, direct connection is provided between receptacle and metallic plug and the grounding pole. If a compatible non-metallic plug made of Krydon[®] fiberglass-reinforced polyester material is used, grounding is accomplished through the extra grounding pole only. If a separate grounding wire is not installed in the enclosure, grounding is accomplished through the conduit system.

†Caution: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.

EBBR Series Interlocked Arktite® Receptacles with Circuit Breakers

30, 60, 100 Amp Interlocked Receptacles

Cl. I, Div. 1 and 2, Groups B, C, D Cl. II, Div. 1 and 2, Groups F†, G NEMA 3, 3R, 7BCD, 9FG, 12 Explosionproof

Dust-Ignitionproof Raintight Wet Locations

Interchangeability of Plugs with Other Hazardous and Non-hazardous Location Receptacles:

- Plugs listed for use with EBBR receptacles are standard Arktite APJ/NPJ plugs. Standard APJ/NPJ and also CPH plugs of the same rating, style and number of poles may be used with EBBR receptacles, as well as with DBR, EPC and EPCB receptacles listed in Section 4P of the catalog.
- As a result, portable equipment suitable for the location and equipped with the proper plug can be used with AR/NR series receptacles for non-hazardous locations; EBBR, EPC and EPCB receptacles for Class I and II hazardous locations; and DR and DBR receptacles for Class II hazardous locations.



Complete EBBR receptacle with circuit breaker installed.

Ordering Information:

Receptacle With Spring	Hub Size	Circuit B	reaker	Without Circuit	w/Cutler-Hammer		
Door Housing	(ln.)	Rating	Amps	Breaker Cat. #	Breaker	w/G.E. Breaker	w/Square D Breaker
30 Amp 3-wire 4-pole Style 2	11/2	3-pole 480VAC+ or 250 VDC	20 30 40 50	EBBRA304 EBBRA304 EBBRA304 EBBRA304	EBBRA304 WT20 3 EBBRA304 WT30 3 EBBRA304 WT40 3* EBBRA304 WT50 3*	EBBRA304 TT20 3 EBBRA304 TT30 3 EBBRA304 TT40 3* EBBRA304 TT50 3*	EBBRA304 DT20 3 EBBRA304 DT30 3 EBBRA304 DT40 3* EBBRA304 DT50 3*
60 Amp 3-wire 4-pole Style 2	1½	3-pole 480VAC+ or 250 VDC	50 60 70 90 100	EBBRA604 EBBRA604 EBBRB604 EBBRB604	EBBRA604 WT50 3 EBBRA604 WT60 3 EBBRA604 WT70 3* EBBRB604 WT90 3* EBBRB604 WT100 3*	EBBRA604 TT50 3 EBBRA604 TT60 3 EBBRA604 TT70 3* EBBRB604 TT90 3* EBBRB604 TT100 3*	EBBRA604 DT50 3 EBBRA604 DT60 3 EBBRA604 DT70 3* EBBRB604 DT90 3* EBBRB604 DT100 3*
100 Amp 3-wire 4-pole Style 2	1½	3-pole 480VAC+ or 250 VDC	50 60 70 90 100	EBBRA104 EBBRA104 EBBRA104 EBBRB104 EBBRB104	EBBRA104 WT50 3 EBBRA104 WT60 3 EBBRA104 WT70 3 EBBRB104 WT90 3 EBBRB104 WT100 3	EBBRA104 TT50 3 EBBRA104 TT60 3 EBBRA104 TT70 3 EBBRB104 TT90 3 EBBRB104 TT100 3	EBBRA104 DT50 3 EBBRA104 DT60 3 EBBRA104 DT70 3 EBBRB104 DT90 3 EBBRB104 DT100 3
150 Amp‡ 3-wire 4-pole Style 2	11/2	3-pole 480VAC+ or 250 VDC	100 125 150	EBBRB154 EBBRB154 EBBRB154	EBBRB154 WT100 3 EBBRB154 WT125FDB 3 EBBRB154 WT150FDB 3		

+Enclosures with 600 Volt circuit breakers are available. Add suffix "FDB" Ex: EBBRA304 – WT20FDB-3.

*Circuit breaker trip rating may exceed receptacle rating for welding equipment applications only, as higher trip rating may not protect wiring. ‡150A also available in A size enclosure for areas with space constraints (ie EBBRA154).

†Caution: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.

EBBR Series Interlocked Arktite® Receptacles with Circuit Breakers

30, 60, 100 Amp Interlocked Receptacles

Cl. I, Div. 1 and 2, Groups B, C, D Cl. II, Div. 1 and 2, Groups F†, G Cl. III NEMA 3, 3R, 7BCD, 9FG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

		3-wire, 4-p	ole Cat. #
Amps	Cable O.D. Range	Aluminum	Krydon material
30	0.60 to 1.20 0.55 to 0.70 0.70 to 0.85	APJ3485	NPJ3483 NPJ3484
60	0.75 to 1.45 0.75 to 1.07 1.07 to 1.35	APJ6485	NPJ6484 NPJ6485
100	1.00 to 1.70 0.93 to 1.21 1.21 to 1.50	APJ10487	NPJ10486 NPJ10487

APJ and NPJ Arktite Plugs

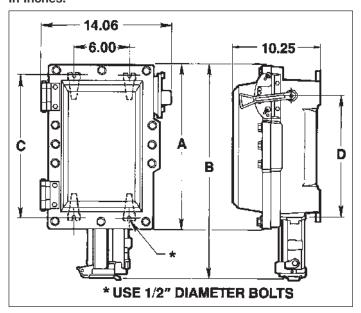


Aluminum APJ series

Krydon[®] material NPJ series (non-metallic)

Both APJ and NPJ series plugs may be used with EBBR series interlocked receptacles.

Dimensions In Inches:



EBBI	RA			EBBI	RB			
Amps	Α	В	С	D	Α	В	С	D
30	19.40	22.85	17.25	14.50				
60	19.40	23.95	17.25	14.50	26.90	31.45	24.75	22.00
100	19.40	24.70	17.25	14.50	26.90	32.20	24.75	22.00
150	19.40	24.70	17.25	14.50	26.90	32.20	24.75	22.00

†Caution: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.

BHR Dead Front Interlocked Receptacles with Factory Sealed Switch

CI. II, Div. 1 and 2, Groups F, G CI. III NEMA 3, 4, 7BCD, 9FG, 12 Explosionproof

Cl. I, Div. 1 and 2, Groups B, C, D

Dust-Ignitionproof Raintight Wet Locations

BHP Plugs

Applications:

BHR dead front interlocked receptacles and switches with BHP plugs are used:

- To supply power to portable electrical equipment such as motor-generator sets, compressors, heating and cooling units, lighting systems, conveyors, and similar equipment
- Primarily in areas which are hazardous due to the presence of hydrogen or gases, or vapors of equivalent hazard such as manufactured gas
- In damp, wet, or corrosive locations
- Indoors or outdoors in hydrogen areas of process industries, missile bases where hydrogen fuel is used, and gas manufacturing plants

Features:

- BHR receptacles feature a built-in rotary switch which is operated automatically when the plug is inserted and withdrawn. The switch, capable of making and breaking the circuit at full rated load, is operated by a helical blade in the center of the plug
- The plug and receptacle contacts cannot be made or broken under load. When the plug is inserted, the plug and receptacle contacts engage before the switch closes. When the plug is withdrawn, the switch opens before the plug and receptacle contacts disengage. This sequence of operation provides maximum safety in a dead front receptacle. Arcing is isolated in a flame and dust-tight chamber
- Operation is simple, safe and positive. To disconnect the portable device, the plug fastening ring is unscrewed and the plug simply pulled straight out. No separate interlock device or operating handle need be actuated
- Positive engagement without mismatching is assured by a distinct physical polarization of the plug and receptacle in every rating
- Plugs are furnished with pressure terminations. Receptacles are furnished with flexible leads for splicing to the supply conductors. A large threaded cover provides access to the wiring compartment
- As shown in the listings, assemblies are available for top, bottom or through feed conduit arrangements in ³/₄" to 2" sizes

Certifications and Compliances:

- Class I, Division 1 and 2, Groups B, C, D
- Class II, Division 1 and 2, Groups F, G
- Class III
- NEMA: 3, 4, 7BCD, 9FG, 12
- ANSI/UL Standard: 1010

Standard Materials:

- Receptacle housings copper-free aluminum
- Seals malleable iron
- Plug exteriors copper-free aluminum
- Insulation high impact glass filled phenolic
- Contacts brass

Standard Finishes:

- Copper-free aluminum natural
- Malleable iron electrogalvanized and aluminum lacquer
- Phenolic natural (black)
- Brass silver plated

Options:

 Special polarity – where two or more receptacles of the same ampere rating and number of poles are to be installed in the same areas for use on different voltages, alternate polarizations can be furnished. Details on request.

Electrical Rating Ranges:

• 30, 60 and 100 amperes, 480VAC

Grounding:

 BHR receptacles and BHP plugs are provided with an extra grounding pole. In plugs, provision is made for attachment of the grounding wire to the grounding pole. In addition, direct connection is provided between the plug and receptacle housings and the grounding pole. In the receptacle, grounding is accomplished through the conduit system

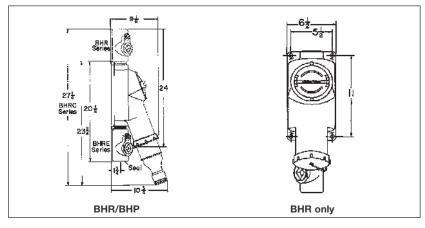
CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.

BHR/BHP in use.



BHR/BHP separated showing helical driver.

Dimensions In Inches:



BHR Dead Front Interlocked Receptacles with Factory Sealed Switch

Cl. I, Div. 1 and 2, Groups B, C, D Cl. II, Div. 1 and 2, Groups F, G Cl. III NEMA 3, 4, 7BCD, 9FG, 12 Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

BHP Plugs, 480 VAC, 60-400 hertz

Receptacles

Receptacles are supplied ready to install with a threaded cap. Through feed hubs are standard. Sealing fittings, nipples and closure plugs ordered separately depending on application. Receptacles can be configured for Top Feed, Bottom feed or Through feed.

Amps	Config.	Hub Size (In.)	Cat. #
	2-wire, 3-pole	3/4	BHRC3382N
	2-wire, 3-pole	1	BHRC3383N
20	3-wire, 4-pole	3/4	BHRC3482D
30	3-wire, 4-pole	1	BHRC3483D
	4-wire, 5-pole	1	BHRC3583 NW
	4-wire, 5-pole	11/4	BHRC3584 NW
	2-wire, 3-pole	11/4	BHRC6384N
	2-wire, 3-pole	11/2	BHRC6385N
60	3-wire, 4-pole	11/4	BHRC6484D
60	3-wire, 4-pole	11/2	BHRC6485D
	4-wire, 5-pole	11/4	BHRC6584 NW
	4-wire, 5-pole	11//2	BHRC6585 NW
	2-wire, 3-pole	11/4	BHRC10384N
	2-wire, 3-pole	11/2	BHRC10385N
100	3-wire, 4-pole	11/2	BHRC10485D
100	3-wire, 4-pole	2	BHRC10486D
	4-wire, 5-pole	11/2	BHRC10585 NW
	4-wire, 5-pole	2	BHRC10586 NW



Plugs

Plugs mate to BHR receptacles. Plugs are supplied with threaded locking ring that threads onto receptacle housing for secure connection and environmental seal. Mechanical external cord grip and neoprene bushing provided for secure cord retention and environmental seal.

Amps	Config.	Cable Dia.	Cat. #
	2-wire, 3-pole	.500875	BHP3383N
	2-wire, 3-pole	.875 - 1.375	BHP3385N
20	3-wire, 4-pole	.500875	BHP3483D
30	3-wire, 4-pole	.875 - 1.375	BHP3485D
	4-wire, 5-pole	.500875	BHP3583 NW
	4-wire, 5-pole	.875 - 1.375	BHP3585 NW
	2-wire, 3-pole	.500875	BHP6383N
	2-wire, 3-pole	.875 - 1.375	BHP6385N
00	3-wire, 4-pole	.500875	BHP6483D
60	3-wire, 4-pole	.875 - 1.375	BHP6485D
	4-wire, 5-pole	.875 - 1.375	BHP6585 NW
	4-wire, 5-pole	1.375 - 1.875	BHP6587 NW
	2-wire, 3-pole	.875 - 1.375	BHP10385N
	2-wire, 3-pole	1.375 - 1.875	BHP10387N
100	3-wire, 4-pole	.875 - 1.375	BHP10485D
100	3-wire, 4-pole	1.375 - 1.875	BHP10487D
	4-wire, 5-pole	.875 - 1.375	BHP10585 NW
	4-wire, 5-pole	1.375 - 1.875	BHP10587 NW



SRD Dead Front Interlocked Receptacles with Factory Sealed Switch

SP Plugs, 480 VAC, 60-400 hertz

Cl. I, Div. 1 and 2, Group D Cl. II, Div. 1 and 2, Groups F, G NEMA 3, 7D, 9FG, 12 Explosionproof

Dust-Ignitionproof Raintight Wet Locations

Applications:

SRD dead front interlocked receptacles, switches, and SP plugs are used:

- To supply power to portable electrical equipment such as motor-generator sets, compressors, heating and cooling units, lighting systems, conveyors and similar equipment
- In areas which are hazardous due to the presence of flammable vapors or gases and combustible dusts
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants, as well as facilities for processing and handling grain, flour and starch

Features:

- · SRD receptacles feature a built-in rotary switch that operates automatically when the plug is inserted and withdrawn. The switch, capable of making and breaking the circuit at full rated load, is operated by a helical blade in the center of the
- The plug and receptacle contacts cannot be made or broken under load. When the plug is inserted, the plug and receptacle contacts engage before the switch closes. When the plug is withdrawn, the switch opens before the plug and receptacle contacts disengage. This sequence of operation provides the maximum safety of a dead front receptacle. Arcing is isolated in a flame and dust-tight chamber.
- Operation is simple, safe and positive. To disconnect the portable device, the plug is simply pulled straight out. No separate interlock device or operating handle need be actuated.
- · Positive engagement without mismating is assured by a distinct physical polarization of plug and receptacle in every rating.
- Plugs are furnished with pressure terminations. Receptacles are furnished with flexible leads for splicing to the supply conductors. A threaded cover at the top provides access to the wiring compartment.
- Back box is provided with 1¹/₄" vertical through feed hubs.

Certifications and **Compliances:**

Class I, Division 1 and 2, Group D Class II, Division 1 and 2, Groups F, G Class III

• NEMA 3, 7D, 9FG, 12

• ANSI/UL Standard: 1010

Standard Materials:

- Back box Feraloy® iron alloy
- Threaded cover copper-free aluminum
- · Receptacle housings and plug exteriors copper-free aluminum
- · Insulation high impact glass filled phenolic
- Contacts brass

Standard Finishes:

- Feralov iron allov electrogalvanized and aluminum acrylic paint
- Copper-free aluminum natural
- Phenolic natural (black)
- Brass silver plated

Options:

• Special polarity - where two or more receptacles of the same ampere rating and number of poles are to be installed in the same area for use on different voltages, alternate polarizations can be furnished. Details on request.

Electrical Rating Ranges:

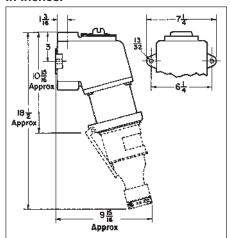
• 30 and 60 amperes, 480VAC

Grounding:

· SRD receptacles and SP plugs are provided with an extra grounding pole. In plugs, provision is made for attachment of a grounding wire to the grounding pole. In addition, direct connection is provided between plug and receptacle housings and the grounding pole. In the receptacle, grounding is accomplished through the conduit system.

CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive

Dimensions In Inches:







SRD Dead Front Interlocked Receptacles with Factory Sealed Switch

SP Plugs, 480 VAC, 60-400 hertz

Cl. I, Div. 1 and 2, Group D Cl. II, Div. 1 and 2, Groups F, G Cl. III NEMA 3, 7D, 9FG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations







SP Plug



SRD Receptacle with threaded cap



SP Plug with fastening ring

Back Box - 11/4" Vertical Through Feed Hubs

		With Spring Door	With Cable Gr Neoprene Bus		With Threaded Cap	With Cable Grip and Neoprene Bushing	
Rating	Description	Cat. #	Cable Dia.	Cat. #	Cat. #	Cable Dia.	Cat. #
	2-wire, 3-pole	SRD3324N	.500 to .875 .875 to 1.375	SP3363N SP3365N	SRD3384N	.500 to .875 .875 to 1.375	SP3383N SP3385N
30 amp.	3-wire, 4-pole	SRD3424D	.500 to .875 .875 to 1.375	SP3463D SP3465D	SRD3484D	.500 to .875 .875 to 1.375	SP3483D SP3485D
	4-wire, 5-pole	SRD3524 NW	.500 to .875 .875 to 1.375	SP3563 NW SP3565 NW	SRD3584 NW	.500 to .875 .875 to 1.375	SP3583 NW SP3585 NW
	2-wire, 3-pole	SRD6324N	.500 to .875 .875 to 1.375	SP6363N SP6365N	SRD6384N	.500 to .875 .875 to 1.375	SP6383N SP6385N
60 amp.	3-wire, 4-pole	SRD6424D	.500 to .875 .875 to 1.375	SP6463D SP6465D	SRD6484D	.500 to .875 .875 to 1.375	SP6483D SP6485D
	4-wire, 5-pole	SRD6524 NW	875 to 1.375 1.375 to 1.875	SP6565 NW SP6567 NW	SRD6584 NW	.875 to 1.375 1.375 to 1.875	SP6585 NW SP6587 NW

EPC Circuit Breakers and Enclosures with Interlocked Arktite® Receptacles

APJ/NPJ† and DP Arktite Plugs

CI. I, Div. 1 and 2, Groups C, D CI. II, Div. 1 and 2, Groups F, G CI. III NEMA/EFC 3, 7CD, 9FG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

- The EPC interlock receptacle is designed for use as a service outlet for portable equipment
- It is designed for use in damp, wet and corrosive locations, indoors or outdoors, in areas which are hazardous due to flammable vapors, gases or combustible dust. For example: refineries, chemical plants, and other processing and handling facilities of a hazardous nature

Features:

- Mechanical interlock mechanism for dead front construction
- Receptacles are mechanically interlocked with circuit breakers to provide disconnect means, short circuit protection and thermal time delay overload protection
- A spring door receptacle, located at bottom of 30, 60 and 100 ampere units and at front of 200 ampere units, is mechanically interlocked with the circuit breaker operating mechanism for maximum safety
- Plug and receptacle contacts cannot be made or broken under load. The circuit breaker cannot be closed until the plug is fully inserted and the plug cannot be withdrawn unless the breaker is open
- Operating handles can be padlocked in either "ON" or "OFF" positions. Breakers are trip-free of the handles and will open under short circuit or overload even if the handle is locked in the "ON" position
- Quick installation and leveling is provided by the three-point mounting arrangement which has one keyhole slot at top and two open slots at bottom
- Bodies have four taper-tapped conduit hubs with integral bushings. Two are located at top and two directly below. Sizes are as shown in the listings.

Certifications and Compliances:

• NEC:

Class I, Division 1 and 2, Groups C, D Class II, Division 1 and 2, Groups F, G Class III

- NEMA: 3, 7CD, 9FG, 12
- ANSI/UL Standard: 1010
- CEC:

Class I, Division 1 and 2, Groups C, D Class II, Division 1 and 2, Group G Class III Encl. 3, 4

Standard Materials:

- Bodies, covers and receptacle housings
 copper-free aluminum
- Operating handles copper-free aluminum
- · Operating shafts stainless steel
- Interior parts sheet steel
- Insulation (receptacles and plugs) fiberglass-reinforced polyester
- Pressure contacts brass
- Crimp/solder contacts leaded red brass

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel electrogalvanized with chromate finish
- Brass natural
- Fiberglass-reinforced polyester natural (red)
- Leaded red brass electro-tin-plate

Electrical Rating Ranges:

- Receptacle ratings: 30, 60, 100 and 200 amperes
- Circuit breakers: 100 and 225 ampere frame sizes

Grounding:

 EPC interlocked receptacles and matching plugs are provided with an extra grounding pole for attaching a grounding wire. In addition, direct connection is provided between plug and receptacle and the grounding pole. If a separate grounding wire is not installed in the enclosure, grounding is accomplished through the conduit system.



30, 60 and 100 ampere size EPC



200 ampere size EPC

Options:

The following special options are available by adding suffix to Cat. #:

The following special options are available by adding same to out. In.	
Description	Suffix
Special polarity – used where two or more receptacles of the same ampere rating, style and number of poles are to be installed in the same area for use on different voltages. Available on 30, 60 and 100 ampere units as follows: Receptacle interior rotated 22½° clockwise when viewed from face of receptacle	
and plug changed to match	S4
Side bosses drilled and tapped same size as standard hubs, 30, 60 and	
100 ampere units only	S366
Back boss drilled and tapped same size as standard hubs, 30, 60 and	
100 ampere units only	S367
Breather and drain (Class I, Class II)	
Breather and drain (Class I only)	
Broakfor and Grain (Glace Forty)	04044

CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.

†Pressure connectors are standard. Crimp/solder type terminators are optionally available for 2, 3 and 4-pole 30 ampere, 3 and 4-pole 60 and 100 ampere. For details, see page 1316. To specify, add the suffix "T" to the catalog number. For example: APJ3365-T (Plug).

EPC Circuit Breakers and Enclosures with Interlocked Arktite® Receptacles

Cl. I, Div. 1 and 2, Groups C, D Cl. II, Div. 1 and 2, Groups F, G CI. III NEMA/EFC 3, 7CD, 9FG, 12 Explosionproof

Dust-Ignitionproof Raintight Wet Locations

Interchangeability of Plugs with Other **Hazardous and Non-hazardous Location Receptacles:**

- Plugs listed for use with 30, 60 and 100 ampere EPC assemblies are standard Arktite APJ/NPJ plugs. Other standard APJ and CPH plugs of the same rating, style and number of poles may be used with EPC receptacles, as well as with DBR, EBBR and EPCB receptacles listed elsewhere in this section.
- As a result, portable equipment suitable for the location and equipped with the proper plug can be used with AR/NR series receptacles for non-hazardous locations: EBBR, EPC and EPCB receptacles for Class I hazardous locations; DR and DBR receptacles for Class II hazardous locations.

Ordering Information:

100 Ampere Frame Size Thermal-magnetic Circuit Breaker with Non-interchangeable Thermal Trip and Non-adjustable Magnetic Trip

Circuit Breaker			Enclosure				
Receptacle with Spring Door Housing	Rating		Hub Size (In.)	Ckt. Bkr. Amps	Without Circuit Breaker Cat. #	With Circuit Breaker Cutler-Hammer "EHD" Cat. #	General Electric "TED" Cat. #
30 amp. 2-wire, 3-pole, Style 2	2-pole, 480VAC‡ or 250 VDC	600VAC†	11/4	20 30 40* 50*	EPC43032	EPC43032 WT20 2 EPC43032 WT30 2 EPC43032 WT40 2 EPC43032 WT50 2	EPC43032 TT20 2 EPC43032 TT30 2 EPC43032 TT40 2 EPC43032 TT50 2
30 amp. 3-wire, 4-pole, Style 2	3-pole, 480VAC‡ or 250 VDC	600VAC†	11/4	20 30 40* 50*	EPC43042	EPC43042 WT20 3 EPC43042 WT30 3 EPC43042 WT40 3 EPC43042 WT50 3	EPC43042 TT20 3 EPC43042 TT30 3 EPC43042 TT40 3 EPC43042 TT50 3
60 amp. 2-wire, 3 pole, Style 2	2-pole, 480VAC‡ or 250 VDC	600VAC†	1½ 2	50 60 70* 90* 100*	EPC46032 EPC66032	EPC46032 WT50 2 EPC66032 WT60 2 EPC66032 WT70 2 EPC66032 WT90 2 EPC66032 WT100 2	EPC46032 TT50 2 EPC66032 TT60 2 EPC66032 TT70 2 EPC66032 TT90 2 EPC66032 TT100 2
60 amp. 3-wire, 4-pole, Style 2	3-pole, 480VAC‡ or 250 VDC	600VAC†	1 ¹ / ₄	50 60 70* 90* 100*	EPC46042 EPC66042	EPC46042 WT50 3 EPC66042 WT60 3 EPC66042 WT70 3 EPC66042 WT90 3 EPC66042 WT100 3	EPC46042 TT50 3 EPC66042 TT60 3 EPC66042 TT70 3 EPC66042 TT90 3 EPC66042 TT100 3
100 amp. 2-wire, 3-pole, Style 2	2-pole, 480VAC‡ or 250 VDC	600VAC†	2	60 70 90 100	EPC61032	EPC61032 WT60 2 EPC61032 WT70 2 EPC61032 WT90 2 EPC61032 WT100 2	EPC61032 TT60 2 EPC61032 TT70 2 EPC61032 TT90 2 EPC61032 TT100 2
100 amp. 3-wire, 4-pole, Style 2	3-pole, 480VAC‡ or 250VDC	600VAC†	2	60 70 90 100	EPC61042	EPC61042 WT60 3 EPC61042 WT70 3 EPC61042 WT90 3 EPC61042 WT100 3	EPC61042 TT60 3 EPC61042 TT70 3 EPC61042 TT90 3 EPC61042 TT100 3

225 Ampere Frame Size Circuit Breaker with Interchangeable Thermal Magnetic Trip††

Circuit Breaker	Enclosure							
					With Circuit Breaker			
Receptacle with Spring Door Housing	Rating	Hub Size (In.)	Ckt. Bkr. Amps	Without Circuit Breaker Cat. #	Cutler-Hammer "KB" Cat. #	General Electric "TFK" Cat. #		
200 amp. 3-wire,	3-pole, 600VAC	3	125 150 175	EPC604 2042	EPC604 2042 WT125 3 EPC604 2042 WT150 3 EPC604 2042 WT175 3	EPC605 2042 TT125 3 EPC605 2042 TT150 3 EPC605 2042 TT175 3		
4-pole, Style 2	or 250 VDC	3	200 225*	EPC605 2042	EPC604 2042 WT200 3 EPC604 2042 WT225 3	EPC605 2042 TT200 3 EPC605 2042 TT225 3		

^{*}Circuit breaker trip rating may exceed receptacle rating for welding equipment applications only, as higher trip rating may not protect wiring.
††200 ampere units are suitable for Class I, Group D (NEMA 7D).
‡Enclosures with 600 volt circuit breakers from U.S.A. are available. Information on request.

CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts.

[†]CSA Certified units are supplied with 600VAC FDB frame circuit breakers.

APJ/NPJ† and DP Arktite® Plugs with Cable Grip and Neoprene Bushing

Cl. I, Div. 1 and 2, Groups C, D Cl. II, Div. 1 and 2, Groups F, G Cl. III NEMA/EFC 3, 7CD, 9FG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations







APJ Plug

NPJ Plug

Ordering Information - APJ/NPJ and DP Arktite Plugs

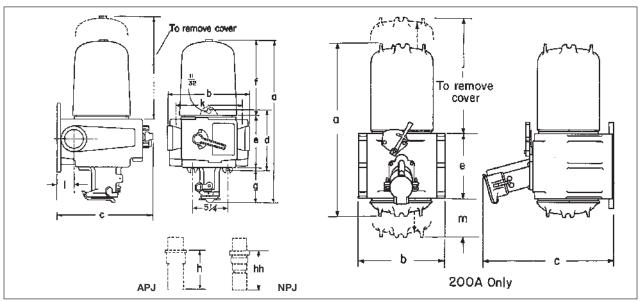
600VAC/250VDC with Cable Grip and Neoprene Bushing - Style 2

Amps	Cable O.D. Range	2-wire, 3-pole Cat. #	3-wire, 4-pole Cat. #
	0.60 to 1.20	APJ3385	APJ3485
30	0.55 to 0.70	NPJ3383	NPJ3483
	0.70 to 0.85	NPJ3384	NPJ3484
	0.75 to 1.45	APJ6385	APJ6485
60	0.75 to 1.07	NPJ6384	NPJ6484
	1.07 to 1.35	NPJ6385	NPJ6485
	1.00 to 1.70	APJ10387	APJ10487
100	0.93 to 1.21	NPJ10386	NPJ10486
	1.21 to 1.50	NPJ10387	NPJ10487
200†	1.875 to 2.50		DP20468

†Pressure connectors are supplied as standard. To specify crimp/solder type terminations add the suffix "T" to the catalog number. For example: APJ3385-T (Plug).

Dimensions

In Inches:



Recept.	Breaker	а	b	С	d	е	f	g	h	hh	j	k	I	m
30 Amp.	20-50 Amp.	24	105/8	14³/ ₈	93/8	711/16	113/4	49/16	413/16	7	203/4	7³/ ₈	21/16	
60 Amp.	50 Amp.	241/2	10 ⁵ / ₈	14 ³ / ₈	93/8	711/16	113/4	51/16	513/16	613/16	203/4	7 ³ / ₈	21/16	
60 Amp.	70-100 Amp.	241/2	1213/16	14 ³ / ₈	93/8	711/16	113/4	51/16	5 ¹³ / ₁₆	613/16	203/4	91/4	25/8	
100 Amp.	70-100 Amp.	251/4	1213/16	143/8	9³/ ₈	711/16	113/4	5 ¹³ / ₁₆	6 ⁵ / ₈	73/4	203/4	91/4	2 ⁵ / ₈	
200 Amp.	125-225 Amp.	36	18	27		131/2					341/4			51/2

Dim. "h" and "hh" are exposed portion of plug when engaged with receptacle.

EPCB Circuit Breakers and Enclosures with Interlocked Arktite® Receptacles

APJ/NPJ Arktite Plugs‡

Cl. I, Div. 1 and 2, Groups B, C, D Cl. II, Div. 1 and 2, Groups F, G Cl. III NEMA/EFC 3, 7BCD, 9FG, 12 Explosionproof Dust-Ignitionproof Raintight Wet Locations

Applications:

- The EPCB interlock receptacle is designed for use as a service outlet for portable equipment. The circuit breaker provides overcurrent and short circuit protection
- It has a mechanical interlock mechanism for dead front construction and no load make or break feature
- It is designed for use in damp, wet and corrosive locations, indoors or outdoors, in areas which are hazardous due to flammable vapors, gases or combustible dust. For example: refineries, chemical plants, and other processing and handling facilities of a hazardous nature

Features:

- Spring door receptacle located at the bottom is mechanically interlocked with the circuit breaker operating mechanism for maximum safety. Plug and receptacle contacts cannot be made or broken under load. The circuit breaker cannot be closed until the plug is fully inserted and the plug cannot be withdrawn unless the breaker is open
- Operating handles can be padlocked in either "ON" or "OFF" positions. Breakers are trip-free of the handles and will open under short circuit or overload even if the handle is locked in the "ON" position
- Quick installation and leveling is provided by the three-point mounting arrangement having one keyhole slot at top and two open slots at bottom
- Bodies have four 1¹/₄" taper tapped conduit hubs with integral bushings. Two are located at top and two directly below
- When installing, seals suitable for Class I, Group B hazardous areas must be located within 1½" of each conduit opening

Certifications and Compliances:

• NEC:

Class I, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Groups F, G Class III

- NEMA: 3, 7BCD, 9FG, 12
- ANSI/UL Standard: 1010
- CFC

Class I, Division 1 and 2, Groups B, C, D Class II, Division 1 and 2, Group G Class III

• Encl. 3, 4

Standard Materials:

- Bodies, covers and receptacle housings
 copper-free aluminum
- Operating handles copper-free aluminum
- · Operating shafts stainless steel
- Interior parts sheet steel
- Insulation fiberglass-reinforced polyester
- Pressure contacts brass
- Crimp/solder contacts leaded red brass

Standard Finishes:

- Copper-free aluminum natural
- Stainless steel natural
- Sheet steel zinc electroplate with chromate finish
- Brass natural
- Fiberglass-reinforced polyester natural (red)
- Leaded red brass electro-tin-plate

Electrical Rating Ranges:

- Receptacle ratings: 30, 60 and 100 amperes
- Circuit breakers: 100 ampere frame size

Options:

The following special options are available by adding the suffix to the Cat. #:

Special polarity. For use where two or more receptacles of the same ampere rating, style and number of poles are to be installed in the same area for use on different voltages. Receptacle interior rotated 22½° to right (viewed from face) and plug

Interchangeability of Plugs with Other Hazardous and Non-hazardous Location Receptacles:

- Plugs listed for use with EPCB assemblies are standard Arktite APJ/NPJ plugs. Other standard APJ and CPH plugs of the same rating, style and number of poles may be used with EPCB receptacles as well as DBR and EPC receptacles listed elsewhere in this section.
- As a result, portable equipment suitable for the location and equipped with the proper plug can be used with AR/NR series receptacles for non-hazardous locations; EBBR, EPC and EPCB receptacles for Class I hazardous locations; DR and DBR receptacles for Class II hazardous locations

Grounding:

 EPCB interlocked receptacles and matching plugs are provided with an extra grounding pole for attaching a grounding wire. In addition, direct connection is provided between plug and receptacle and the grounding pole. If a separate grounding wire is not installed in the enclosure, grounding is accomplished through the conduit system



‡Pressure connectors are supplied as standard. To specify crimp/solder type terminations add the suffix "T" to the catalog number. For example: APJ3365-T (Plug).

Suffix

EPCB Circuit Breakers and Enclosures with Interlocked Arktite® Receptacles

APJ/NPJ Arktite Plugs‡

Cl. I, Div. 1 and 2, Groups B, C, D Cl. II, Div. 1 and 2, Groups F, G CI. III NEMA/EFC 3, 7BCD, 9FG, 12 Explosionproof

Dust-Ignitionproof Raintight Wet Locations

Ordering Information:

100 Ampere Frame Size Thermal-magnetic Circuit Breaker with Non-interchangeable Thermal Trip and Non-adjustable Magnetic Trip

Circuit Breaker Receptacle with Spring		Hub Size	sure witl Ckt. Bkr.	h Circuit Breaker	
Door Housing	Rating	(ln.)	Amps	Cutler-Hammer	General Electric
30 amp. 2-wire, 3-pole, Style 2	2-pole, 600VAC or 250 VDC	11/4	20 30 40* 50*	EPCB43632 WT20HFD 2 EPCB43632 WT30HFD 2 EPCB43632 WT40HFD 2 EPCB43632 WT50HFD 2	EPCB43632 TT20TED 2 EPCB43632 TT30TED 2 EPCB43632 TT40TED 2 EPCB43632 TT50TED 2
30 amp. 3-wire, 4-pole, Style 2	3-pole, 600VAC or 250 VDC	11/4	20 30 40* 50*	EPCB43642 WT20HFD 3 EPCB43642 WT30HFD3 EPCB43642 WT40HFD 3 EPCB43642 WT50HFD 3	EPCB43642 TT20TED 3 EPCB43642 TT30TED 3 EPCB43642 TT40TED 3 EPCB43642 TT50TED 3
60 amp. 2-wire, 3-pole, Style 2	2-pole, 600VAC or 250 VDC	11/4	50 60* 70* 90* 100*	EPCB46632 WT50HFD 2 EPCB46632 WT60HFD 2 EPCB46632 WT70HFD 2 EPCB46632 WT90HFD 2 EPCB46632 WT100HFD 2	EPCB46632 TT50TED 2 EPCB46632 TT60TED 2 EPCB46632 TT70TED 2 EPCB46632 TT90TED 2 EPCB46632 TT100TED 2
60 amp. 3-wire, 4-pole, Style 2	3-pole, 600VAC or 250 VDC	11/4	50 60* 70* 90* 100*	EPCB46642 WT50HFD 3 EPCB46642 WT60HFD 3 EPCB46642 WT70HFD 3 EPCB46642 WT90HFD 3 EPCB46642 WT100HFD 3	EPCB46642 TT50TED 3 EPCB46642 TT60TED 3 EPCB46642 TT70TED 3 EPCB46642 TT90TED 3 EPCB46642 TT100TED 3
100 amp. 2-wire, 3-pole, Style 2	2-pole, 600VAC or 250 VDC	11/4	70 90 100	EPCB41632 WT70HFD 2 EPCB41632 WT90HFD 2 EPCB41632 WT100HFD 2	EPCB41632 TT70TED 2 EPCB41632 TT90TED 2 EPCB41632 TT100TED 2
100 amp. 3-wire, 4-pole, Style 2	3-pole, 600VAC or 250 VDC	11/4	70† 90† 100†	EPCB41642 WT70HFD 3 EPCB41642 WT90HFD 3 EPCB41642 WT100HFD 3	EPCB41642 TT70TED 3 EPCB41642 TT90TED 3 EPCB41642 TT100TED 3

‡Pressure connectors are supplied as standard.

To specify crimp/solder type terminators add the suffix "T" to the catalog number. For example: APJ3385-T (Plug).

*Circuit breaker trip rating may exceed receptacle rating for welding equipment applications only, as higher trip rating may not protect wiring. †For detailed information on circuit breaker

4-pole

selection see Section 3C.

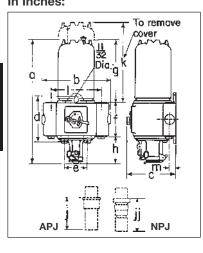






NPJ Plua

Dimensions In Inches:



APJ/NPJ Arktite Plugs 600VAC/250VDC with Cable Grip and Neoprene Bushing - Style 2 3-wire,

2-wire,

3-pole

Ü	Α	mps	O.D. Ran	ge	Cat. #	Ca	at. #
	3	0	0.60 to 1. 0.55 to 0. 0.70 to 0.	70	APJ3385 NPJ3383 NPJ3384	NF	PJ3485 PJ3483 PJ3484
	6	0	0.75 to 1. 0.75 to 1. 1.07 to 1.	07	APJ6385 NPJ6384 NPJ6385	NF	PJ6485 PJ6484 PJ6485
	10	00	1.00 to 1. 0.93 to 1. 1.21 to 1.	21	APJ10387 NPJ10386 NPJ10387	NF	PJ10487 PJ10486 PJ10487
Receptacle	а	b	С	d	e	f	
30 Amp.	261/4	115/16	113/4	85/8	5	73/4	
60 Amp.	263/4	115/16	113/4	85/8	5	73/4	
100 Amp.	271/2	115/16	113/4	85/8	5	73/4	
Receptacle	g	h	j	jj	k	I	m
	g 13 ⁹ / ₁₆	h 4 ¹⁵ / ₁₆	j 4 ¹³ / ₁₆	jj 7	k 24 ³ / ₄	8 ³ / ₁₆	m 1⁵/8
Receptacle 30 Amp. 60 Amp.							

Cable

Dim "j" and "jj" are exposed portion of plug when engaged with receptacle

Crouse-Hinds by **F**IT•N

DBR Interlocked Arktite® Receptacles With Enclosed Circuit Breakers

APJ/NPJ Arktite Plugs‡

CI. II, Div. 1 and 2, Groups F, G CI. III NEMA/EEMAC 3, 9FG, 12 Dust-Ignitionproof Raintight

Applications:

DBR interlocked *Arktite* receptacles with enclosed circuit breakers and APJ/NPJ *Arktite* plugs are used:

- To supply power to portable electrical equipment such as motor-generator sets, compressors, heating and cooling units, conveyors, and similar equipment
- In locations where hazardous dusts are present, as in grain processing and handling plants, chemical plants and certain food processing industries
- Indoors or outdoors in damp, wet or corrosive locations

Features:

- Receptacles are mechanically interlocked with circuit breakers to provide disconnect means, short circuit protection and thermal time delay overload protection.
- Enclosures are compact and rectangular in shape permitting close spacing.
- For maximum safety, the spring door receptacle at the bottom is mechanically interlocked with the circuit breaker operating mechanism. The circuit breaker cannot be closed until the plug is fully inserted and the plug cannot be withdrawn unless the breaker is open.
- Operating handles can be padlocked in either "ON" or "OFF" positions. Breakers are trip-free of the handles and will open under short circuit or overload even if the handle is locked in the "ON" position.
- Enclosure is provided with a drilled and tapped conduit opening at top center, equipped with a threaded-in bushing. The size furnished is 1½", and removing the bushing permits the use of a 2" conduit.

Certifications and Compliances:

- NEC:
 - Class II, Division 1 and 2, Groups F, G Class III
- NEMA/EEMAC: 3, 9FG, 12
- UL Standard: 698, 1010
- CEC:
 - Class II, Division 1 and 2, Group G Class III
- Encl. 3. 5

Standard Materials:

- Bodies, covers and operating handles copper-free aluminum
- Operating shafts stainless steel
- Receptacle housings and plug exteriors copper-free aluminum
- Insulation: plugs and receptacles fiberglass-reinforced polyester
- Pressure contacts brass
- Crimp/solder contacts leaded red brass

Standard Finishes:

- Copper-free aluminum plug exterior, enclosure and receptacle housing – natural
- · Stainless steel natural
- Brass natural
- Fiberglass-reinforced polyester natural (red)
- Leaded red brass electro-tin-plate

Options:

The following special options are available by adding suffix to Cat. #:

Description

- Conduit arrangements other than standard can be supplied. Details on request.

Electrical Rating Ranges:

- Receptacle ratings: 30, 60 and 100 amperes
- Circuit breakers: 100 ampere frame size

Interchangeability of Plugs with Other Hazardous and Non-hazardous Location Receptacles:

- Plugs listed for use with DBR assemblies are standard Arktite APJ/NPJ plugs.
 Other standard APJ/NPJ and CPH plugs of the same rating, style and number of poles may be used with DBR receptacles, as well as with EBBR, EPC and EPCB receptacles listed in Section 4P.
- As a result, portable equipment suitable for the locations and equipped with the proper plug can be used with AR receptacles for non-hazardous locations, with EBBR, EPC and EPCB receptacles for Class I hazardous locations, and with DR and DBR interlocked receptacles for Class II hazardous locations.

Dimensions:

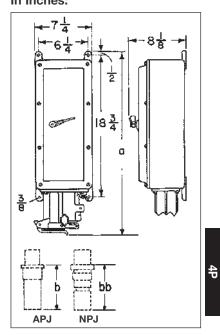
Amps	а	b	bb	
30	213/4	61/2	7	-
60	223/4	81/2	613/16	
100	231/2	101/8	73/4	

Dim. "b" and "bb" are exposed portion of plug when engaged with recentacle



CAUTION: To reduce the risk of ignition of hazardous atmospheres, do not use plugs or receptacles in Class II, Group F locations that contain electrically conductive dusts

Dimensions In Inches:



‡Pressure connectors are standard. Crimp/solder type terminators are optionally available for 3 and 4-pole, 30, 60 and 100 ampere. For details, see page 1316. To specify, add the suffix "T" to the catalog number. For example: AP3375-T (Plug).

CI. II, Div. 1 and 2, Groups F, G CI. III NEMA/EEMAC 3, 9FG, 12 Dust-Ignitionproof Raintight

Ordering Information:

100 Ampere Frame Size with Non-interchangeable Thermal Trip and Non-adjustable Magnetic Trip

		Enclos	sure		
Receptacle With Spring Door Housing†	Circuit Breaker Rating	Hub Size (In.)	Ckt. Bkr. Amps	Without Circuit Breaker Cat. #	With Circuit Breaker Cat. # Cutler-Hammer "FDB"
30 amp., 3-wire, 3-pole, Style 1	3-pole 600VAC	11/2	20 30 40 50	DBR53731	DBR53731 WT20 3 DBR53731 WT30 3 DBR53731 WT40 3* DBR53731 WT50 3*
30 amp., 2-wire, 3-pole, Style 2	2-pole 600VAC or 250 VDC	11/2	20 30 40 50	DBR53732	DBR53732 WT20 2 DBR53732 WT30 2 DBR53732 WT40 2* DBR53732 WT50 2*
30 amp., 3-wire, 4-pole, Style 2	3-pole 600VAC	11/2	20 30 40 50	DBR53742	DBR53742 WT20 3 DBR53742 WT30 3 DBR53742 WT40 3* DBR53742 WT50 3*
60 amp., 3-wire, 3-pole, Style 1	3-pole 600VAC	11/2	50 60 70 90 100	DBR56731	DBR56731 WT50 3 DBR56731 WT60 3 DBR56731 WT70 3* DBR56731 WT90 3* DBR56731 WT100 3*
60 amp., 2-wire, 3-pole, Style 2	2-pole 600VAC or 250 VDC	11/2	50 60 70 90 100	DBR56732	DBR56732 WT50 2 DBR56732 WT60 2 DBR56732 WT70 2* DBR56732 WT90 2* DBR56732 WT100 2*
60 amp., 3-wire, 4-pole, Style 2	3-pole 600VAC	11/2	50 60 70 90 100	DBR56742	DBR56742 WT50 3 DBR56742 WT60 3 DBR56742 WT70 3* DBR56742 WT90 3* DBR56742 WT100 3*
100 amp., 3-wire, 3-pole, Style 1	3-pole 600VAC	11/2	60 70 90 100	DBR51731	DBR51731 WT60 3 DBR51731 WT70 3 DBR51731 WT90 3 DBR51731 WT100 3
100 amp., 2-wire, 3-pole, Style 2	2-pole 600VAC or 250 VDC	11/2	60 70 90 100	DBR51732	DBR51732 WT60 2 DBR51732 WT70 2 DBR51732 WT90 2 DBR51732 WT100 2
100 amp., 3-wire, 4-pole, Style 2	3-pole 600VAC	11/2	60 70 90 100	DBR51742	DBR51742 WT60 3 DBR51742 WT70 3 DBR51742 WT90 3 DBR51742 WT100 3

*Circuit breaker trip rating may exceed receptacled rating for welding equipment applications only, as higher trip rating may not protect wiring. †Style 1 – Grounded through shell. Style 2 – Grounded through extra pole and shell. For a detailed description of these grounding methods, see page 1314.

Style 2†

2-wire,

APJ/NPJ Arktite Plugs





Amps	Cable O.D. Range	3-pole Cat. #	3-pole Cat. #	4-pole Cat. #
30	0.60 to 1.20 0.55 to 0.70 0.70 to 0.85	APJ3375	APJ3385 NPJ3383 NPJ3384	APJ3485 NPJ3483 NPJ3484
60	0.75 to 1.45 0.75 to 1.07 1.07 to 1.35	APJ6375	APJ6385 NPJ6384 NPJ6385	APJ6485 NPJ6484 NPJ6485
100	1.00 to 1.70 0.93 to 1.21 1.21 to 1.50	APJ10377	APJ10387 NPJ10386 NPJ10387	APJ10487 NPJ10486 NPJ10487

Style 1†

3-wire,

APJ Plug NPJ Plug

Crouse-Hinds

3-wire,

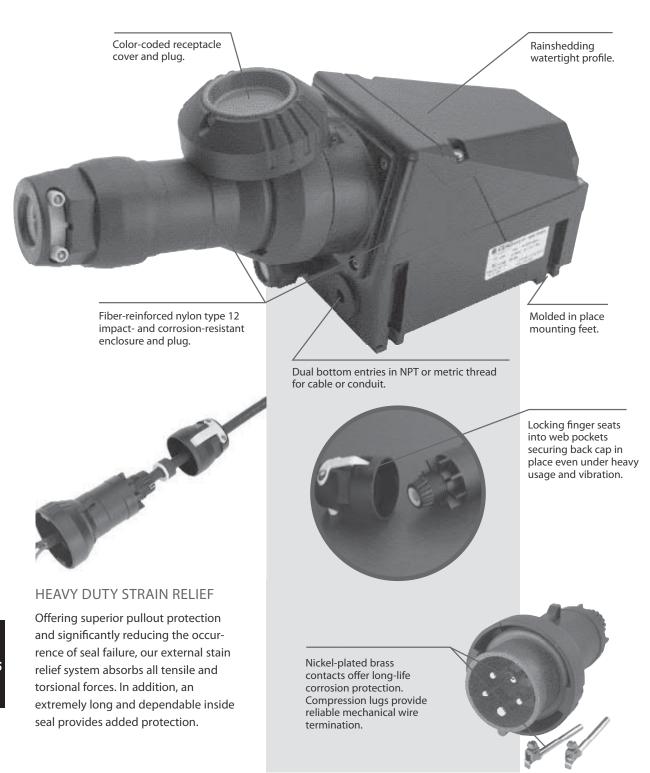
IEC 309 Plugs, Connectors, Receptacles, Inlets, and Interlocks

Non-hazardous and Hazardous

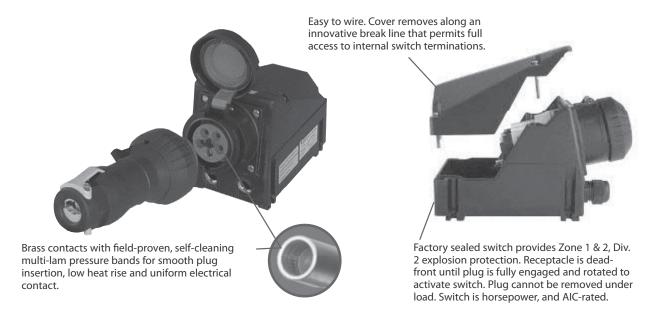
Description	Page No.
Hazardous Heavy Duty IEC 309 Offering	
Applications, Technical Data	see pages 1404-1408
Ordering Information	see pages 1404-1408
Dimensional Data	see pages 1404-1408
Non-hazardous Heavy Duty Industrial IEC 309 Offering	
Applications, Technical Data	see page 1409
Ordering Information	see page 1413
Dimensional Data	see page 1417

CI. I, Zone 1 & 2, Div. 2 NEMA 4X IP66 GOST-R

Hazardous Heavy Duty



Hazardous Heavy Duty



Applications:

- Where hazardous gases may be present
- In areas prone to dust, dirt, vibration, hard use, and abuse
- In locations where complete protection against water jets and even temporary flooding is required
- In corrosive environments caused by chemicals, atmospheres, and water
- Ideal for heavy duty industrial applications, such as: chemical plants, mining, drilling, steel/grain/flour mills, pharmaceuticals, portable power

Features:

- Mechanically interlocked plug and receptacle plug cannot be engaged or disengaged under load
- Simple "insert plug and twist" design to activate internal switch
- Self-cleaning multi-lam contacts provide reliable power connection
- Compact size, easy to handle and install
- OSHA lockout/tagout
- Dual bottom entry Zone 1 Myers™ Hubs
- Full wiring access, saves time and money
- VØ rated materials

Certifications and Compliances:

- AEx de IIC T6
- Class I, Zone 1, Division 2, Groups A, B, C, D
- EEx ed IIC T6
- 🚮 II 2G/D
- UL*, cUL
- PTB 99 ATEX 1039
- IP66, NEMA 4X
- CE
- VDE
- GOST-R

 $^*20A,\,30A,\,60A,\,100A$ Pin Configuration to IEC 309% Series 2 - UL Listed 16A, 32A, 63A, 125A Pin Configuration to IEC 309% Series 1 - Not UL Listed

Standard Materials:

- Enclosure type 12 nylon
- Plug Body fiber-reinforced nylon
- Hardware stainless steel
- Contacts brass

Options:

Description Suffix Auxiliary contacts for PLC or pilot light applications..... \$483

CI. I, Zone 1 & 2, Div. 2 NEMA 4X IP66 GOST-R

Hazardous Heavy Duty

Hazardous Area Pin and Sleeve Ordering Information:





				Configura	tion			
Amps	Cable Gland	Myers Hub	Wires and Poles	Receptacle / Connector	Plug / Inlet	Voltage	Interlock Receptacle	Plug
16A	M20		2W3P	3	(110-120	GHG 511 4304 R3001	GHG 511 7304 R0001
	M20		2W3P			220-240	GHG 511 4306 R3001	GHG 511 7306 R0001
	M25		3W4P			220-240	GHG 511 4409 R3001	GHG 511 7409 R0001
	M25		3W4P			380-415	GHG 511 4406 R3001	GHG 511 7406 R0001
	M25		3W4P			500	GHG 511 4407 R3001	GHG 511 7407 R0001
	M25		3W4P			690	GHG 511 4405 R3001	GHG 511 7405 R0001
	M25		4W5P			380-415	GHG 511 4506 R3001	GHG 511 7506 R0001
20A		1/2	2W3P	©		125	GHG 511 4304 L3001	GHG 511 7304 L0001
		1/2	2W3P			250	GHG 511 4306 L3001	GHG 511 7306 L0001
		3/4	3W4P			3Ø250	GHG 511 4409 L3001	GHG 511 7409 L0001
		3/4	3W4P	©		3Ø480	GHG 511 4407 L3001	GHG 511 7407 L0001
		3/4	3W4P			3Ø600	GHG 511 4405 L3001	GHG 511 7405 L0001
30A		1	3W4P	©	(3Ø250	GHG 512 4409 L3001	GHG 512 7409 L0001
		1	3W4P			3Ø480	GHG 512 4407 L3001	GHG 512 7407 L0001
		1	3W4P			3Ø600	GHG 512 4405 L3001	GHG 512 7405 L0001
32A	M32		3W4P	©	(220-240	GHG 512 4409 R3001	GHG 512 7409 R0001
	M32		3W4P			380-415	GHG 512 4406 R3001	GHG 512 7406 R0001
	M32		3W4P			500	GHG 512 4407 R3001	GHG 512 7407 R0001
	M32		3W4P			690	GHG 512 4405 R3001	GHG 512 7405 R0001
	M32		4W5P			380-415	GHG 512 4506 R3001	GHG 512 7506 R0001
60A		11/4	3W4P	©		3Ø250	GHG 514 4409 L3001	GHG 514 7409 L0001
		11/4	3W4P			3Ø480	GHG 514 4407 L3001	GHG 514 7407 L0001
_		11/4	3W4P			3Ø600	GHG 514 4405 L3001	GHG 514 7405 L0001

5P

CI. I, Zone 1 & 2, Div. 2 NEMA 4X IP66 GOST-R

Hazardous Heavy Duty

Hazardous Area Pin and Sleeve Ordering Information:

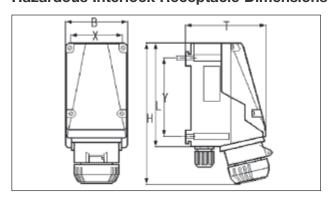




				Configuration					
Amps	Cable Gland	Myers Hub	Wires and Poles	Receptacle / Connector	Plug / Inlet	Voltage	Interlock Receptacle	Plug	
63A	M40		3W4P			220-240	GHG 514 4409 R3001	GHG 514 7409 R0001	
	M40		3W4P			380-415	GHG 514 4406 R3001	GHG 514 7406 R0001	
	M40		3W4P			500	GHG 514 4407 R3001	GHG 514 7407 R0001	
	M40		3W4P			690	GHG 514 4405 R3001	GHG 514 7405 R0001	
	M40		4W5P			380-415	GHG 514 4506 R3001	GHG 514 7506 R0001	
100A		11/2	3W4P			125/250	GHG 515 4412 L3001	GHG 515 7412 L0001	
		11/2	3W4P		③	3Ø250	GHG 515 4409 L3001	GHG 515 7409 L0001	
		11/2	3W4P			3Ø480	GHG 515 4407 L3001	GHG 515 7407 L0001	
		11/2	3W4P			3Ø600	GHG 515 4405 L3001	GHG 515 7405 L0001	
		11/2	4W5P			230-400	GHG 515 4506 L3001	GHG 515 7506 L0001	
125A	M63		3W4P			220-240	GHG 515 4409 R3001	GHG 515 7409 R0001	
	M63		3W4P			380-415	GHG 515 4406 R3001	GHG 515 7406 R0001	
	M63		3W4P			500	GHG 515 4407 R3001	GHG 515 7407 R0001	
	M63		3W4P			690	GHG 515 4405 R3001	GHG 515 7405 R0001	
	M63		4W5P			380-415	GHG 515 4506 R3001	GHG 515 7506 R0001	

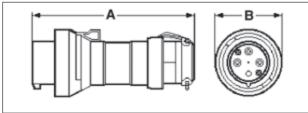
Hazardous Interlock Receptacle Dimensions

Hazardous Heavy Duty



	16/20A		30/32A	60/63A	
	3P	4/5P	4/5P	4/5P	100/125A
В	3.50	4.30	4.70	7.90	8.90
X	3.15 3.94	3.94	4.33	7.09	8.10
Т	4.80	5.80	6.60	8.90	10.00
Υ	4.53	5.31	6.70	10.87	11.90
L	6.10 6.90		8.10	14.60	13.30
Н	8.80	9.30	11.50	18.70	21.10

Hazardous Plug Dimensions



	16/20A			30/32A	60/63A	
	3P	4P	5P	4/5P	4/5P	100/125A
A	6.70	7.40	7.40	9.80	10.70	12.32
В	2.80	3.00	3.30	3.90	4.30	5.16
Cord Dia. Range (In.)	0.515	-0.827		0.515- 1.102	0.630- 1.378	0.827-2.28

Additional Products

10A and 20A multi-pin interlock receptacle and plugs are available - please contact factory for ordering information.



16A and 32A flange receptacles and connectors are available - please contact factory for ordering information.



IEC 309 Plugs, Connectors, Receptacles, and Inlets

Non-hazardous Heavy Duty Industrial

Applications:

- Where complete protection against dirt, dust, and water jets is required
- In damp or corrosive locations
- In areas prone to vibration, hard use, and abuse
- In environments that demand safety, ease of use, reliability, and durability
- Ideal for heavy duty industrial applications, such as: shipyards, military, marine/marina environments, pulp and paper, heavy manufacturing, wastewater treatment, portable power

Features:

- · Voltage, configured, color coded
- Watertight
- Impact- and corrosion-resistant
- Receptacles mount to Eaton's Crouse-Hinds back boxes
- Innovative finger lock keeps cord grip secured
- · Positive grommet seal system at cord entry
- Funneled wire pockets
- Lockout/tagout
- High grade brass contacts
- VØ insulating material
- Multi-lam sleeve bands

Certifications and Compliances:

- IEC 309-1 and 309-2
- NEMA 4X
- IEC IP66

20 Amp & 30 Amp

- Certified to CSA C22.2 No. 182.1 and UL1682 60 Amp & 100 Amp
- Complies with CSA C22.2 No. 182.1 and UL1682

Making a Connection is Easy

A clock face is used to represent the grounding contact position for all female connectors and receptacles. With the keyway at the bottom, the female grounding contact will appear to one of the twelve hour positions. To identify the system voltage, identify the housing color and hour location of the connector or receptacle grounding contact.

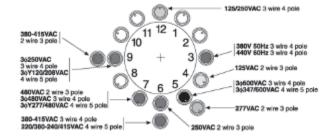
NEMA 4X

Watertight

IP66

Standard Materials:

- Receptacle, Plug, Inlet and Connector Housings type 12 nylon
- Contact Carrier glass fiber-reinforced nylon 6/6
- · Pins and Sleeves brass, nickel plated
- Multi-lam Bands copper beryllium, nickel plated
- · Assembly Screws stainless steel
- Hinge Pin stainless steel
- · Gaskets silicon



Ordering is Easy

GH Prefix	4 1st digit	20 2nd-4th digit	R 1st letter	7 Last digit	W Last letter
GH = Eaton's Crouse-Hinds	3 = 3 pole	16 = 16 Amp	P = Plug		
Heavy Duty Industrial	4 = 4 pole	20 = 20 Amp	C = Connector	Clock position of female grounding	W = Watertight
	5 = 5 pole	30 = 30 Amp	R = Receptacle Straight		
		32 = 32 Amp	B = Inlet	contact	
		60 = 60 Amp	MI = Mechanical Interlock		
		63 = 63 Amp			
		100 = 100 Amp			
		125 = 125 Amp			

IEC 309 Plugs, Connectors, Receptacles, and Inlets

Non-hazardous Heavy Duty Industrial

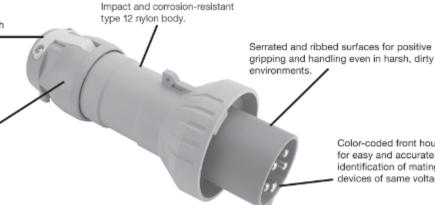
NEMA 4X IP66 Watertight

Color-coded front housing for easy and accurate identification of mating devices of same voltage.

Plug

Mechanical cord clamp with innovative locking finger ensures a positive strain relief system.

Flat wrenching surfaces for tightening down on internal brushing, ensuring complete watertight seal at cord entry.





Locking finger seats into web pockets when cord grip is tightened down, securing back cap in place even under heavy usage and vibration.



Nickel-plated brass contacts offer long-life corrosion protection. Compression lugs provide reliable mechanical wire termination.



Funneled wiring pockets for ease of inserting stranded wire. Deep pocket marked X, Y, and Z keep bare conductors safely confined and isolated from adjacent wires.

Receptacle

Eaton's Crouse-Hinds standard mounting footprint fits all existing Eaton's Crouse-Hinds





Impact-resistant thermoplastic contact carrier provides superior electrical insulation and V flammability rating.



Brass contacts with self-cleaning, field-proven, multi-lam pressure bands for smooth pin insertion, low heat rise, and quality electrical performance.



Funneled wire termination pockets have all screw heads on same side for easy conductor insertion and quick wiring.

Crouse-Hinds by **F:T•N**

Watertight cap meets NEMA 4X,

IP66 hose down standards.

NEMA 4X

IP66 Watertight

5P

Non-hazardous Heavy Duty Industrial 20 & 30A - North American Ratings Series 2 16 & 32A - International Ratings Series 1

IEC 309 Pin and Sleeve Mechanical Interlocks

Applications:

- To supply power to portable or fixed electrical equipment, such as welders, motor generator sets, compressors, conveyors, portable tools, lighting systems, and similar equipment
- In damp or corrosive locations
- In wet locations
- In hose down areas

Features:

- Mechanically interlocked, dead-front receptacle plug cannot be engaged or disengaged under load
- Enclosure has continuous form-in-place gasket
- Meets OSHA's lockout/tagout requirements can be padlocked in "OFF" position
- Industrial switch is horsepower rated for motor load applications

Certifications and Compliances:

- UL Standards: 508, 1682
- CSA Standard: C22.2 Nos. 14, 182.1
- Enclosure type: 3, 4X, 12
- IP66

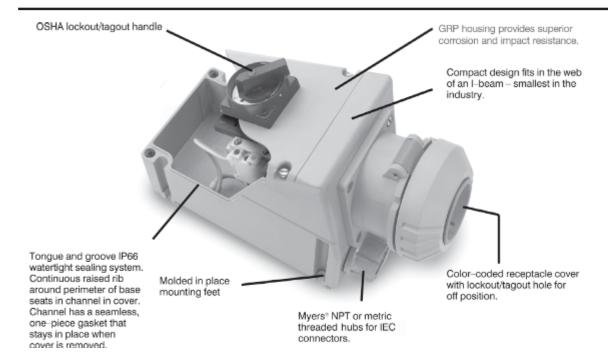
Standard Materials:

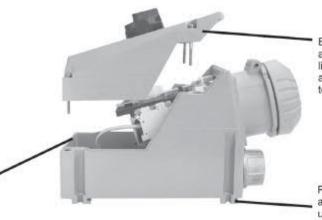
- Enclosure glass reinforced polyamide (GRP)
- External Hardware stainless steel
- Contacts brass, nickel plated
- Contact Carrier glass fiber reinforced nylon 6/6

Options:

Description	Suffix
Auxiliary contacts for PLC or pilot light applications	S483

Non-hazardous Heavy Duty Industrial 20 & 30A - North American Ratings Series 2 16 & 32A - International Ratings Series 1





Easy to wire. Cover removes along an innovative break line that permits full access to internal switch terminations.

Thick, sturdy walls won't warp from hot and cold water washdown. Maintains gasket seal between cover and box.

Raised mounting pads allow firm mounting to uneven surfaces. Provides water channel between wall and enclosure.

IEC 309 Pin and Sleeve Mechanical Interlocks

NEMA 4X IP66 Watertight

Watertight Devices

Non-hazardous Heavy Duty Industrial 20 and 30A - North America Ratings Series 2 16 and 32A - International Ratings Series 1

Ordering Information:

3.00	9				watertight Devices				
		Configura	ation			V			
Amps	Wires & Poles	Recept./Conn.	Plug/Inlet	Voltage	Receptacle	Plug	Connector	Inlet	Interlock Unfused
	2W3P	0	\odot	110–120	GH316R4W	GH316P4W	GH316C4W	GH316B4W	GH316MI4W*
100	2W3P	0	\odot	220–240	GH316R6W	GH316P6W	GH316C6W	GH316B6W	GH316MI6W*
16A	3W4P	0	(i)	380–415	GH416R6W	GH416P6W	GH416C6W	GH416B6W	GH416MI6W
	4W5P	0	\odot	220/380 240/415	GH516R6W	GH516P6W	GH516C6W	N/A	GH516MI6W*
	2W3P	0	\odot	125	GH320R4W	GH320P4W	GH320C4W	GH320B4W	GH320MI4W*
	2W3P	0	\odot	250	GH320R6W	GH320P6W	GH320C6W	GH320B6W	GH320MI6W*
	2W3P	0	0	480	GH320R7W	GH320P7W	GH320C7W	GH320B7W	GH320MI7W*
	3W4P	(3)	\odot	125/250	GH420R12W	GH420P12W	GH420C12W	GH420B12W	GH420MI12W
204	3W4P	0	\odot	3∅250	GH420R9W	GH420P9W	GH420C9W	GH420B9W	GH420MI9W
20A	3W4P	0	\odot	3∅480	GH420R7W	GH420P7W	GH420C7W	GH420B7W	GH420MI7W
	3W4P	3	\odot	3∅600	GH420R5W	GH420P5W	GH420C5W	GH420B5W	GH420MI5W
	4W5P	3	\odot	3ØY120/208	GH520R9W	GH520P9W	GH520C9W	N/A	GH520MI9W*
	4W5P	0	\odot	3ØY277/480	GH520R7W	GH520P7W	GH520C7W	N/A	GH520MI7W*
	4W5P	3	\odot	3ØY347/600	GH520R5W	GH520P5W	GH520C5W	N/A	GH520MI5W*
	2W3P	0	\odot	125	GH330R4W	GH330P4W	GH330C4W	GH330B4W	GH330MI4W
	2W3P	0	\odot	250	GH330R6W	GH330P6W	GH330C6W	GH330B6W	GH330MI6W
	2W3P	0	\odot	480	GH330R7W	GH330P7W	GH330C7W	GH330B7W	GH330MI7W
	3W4P	0	0	125/250	GH430R12W	GH430P12W	GH430C12W	GH430B12W	GH430MI12W
30A	3W4P	0	\odot	3Ø250	GH430R9W	GH430P9W	GH430C9W	GH430B9W	GH430MI9W
	3W4P	0	\odot	3∅480	GH430R7W	GH430P7W	GH430C7W	GH430B7W	GH430MI7W
	3W4P	0	\odot	3∅600	GH430R5W	GH430P5W	GH430C5W	GH430B5W	GH430MI5W
	4W5P	3	\odot	3ØY120/208	GH530R9W	GH530P9W	GH530C9W	N/A	GH530MI9W
	4W5P	0	ⓒ	3ØY277/480	GH530R7W	GH530P7W	GH530C7W	N/A	GH530MI7W
	4W5P	0	ⓒ	3ØY347/600	GH530R5W	GH530P5W	GH530C5W	N/A	GH530MI5W
	2W3P	0	\odot	110–120	GH332R4W	GH332P4W	GH332C4W	GH332B4W	GH332MI4W
201	2W3P	0	\odot	220–240	GH332R6W	GH332P6W	GH332C6W	GH332B6W	GH332MI6W
32A	3W4P	0	☺	380–415	GH432R6W	GH432P6W	GH432C6W	GH432B6W	GH432MI6W
	4W5P	③	\odot	220/380	GH532R6W	GH532P6W	GH532C6W	N/A	GH532MI6W

^{*}Alternate Switch Design. Does not have a switch handle. Switch is activated by inserting plug: rotating plug to turn switch 'ON'.

Non-hazardous Heavy Duty Industrial 60 and 100A - North America Ratings Series 2 63 and 125A - International Ratings Series 1

Ordering Information:

	1	Watertight Device	es		
	V				
Dagantasia	Division	0	lulat	Interlock	

						1 1 1 1 1 1 1			1111
		Configuration							
Amps	Wires & Poles	Recept./Conn.	Plug/Inlet	Voltage	Receptacle	Plug	Connector	Inlet	Interlock Unfused
60A	2W3P	0	\odot	125	GH360R4W	GH360P4W	GH360C4W	GH360B4W	GH360MI4W
	2W3P	0	\odot	250	GH360R6W	GH360P6W	GH360C6W	GH360B6W	GH360MI6W
	2W3P	0	0	480	GH360R7W	GH360P7W	GH360C7W	GH360B7W	GH360MI7W
	3W4P	٨	\odot	125/250	GH460R12W	GH460P12W	GH460C12W	GH460B12W	GH460MI12W
	3W4P	0	\odot	3∅250	GH460R9W	GH460P9W	GH460C9W	GH460B9W	GH460MI9W
	3W4P	0	\odot	3∅480	GH460R7W	GH460P7W	GH460C7W	GH460B7W	GH460MI7W
	3W4P	3	\odot	3∅600	GH460R5W	GH460P5W	GH460C5W	GH460B5W	GH460MI5W
	4W5P	0	⊕	3ØY120/208	GH560R9W	GH560P9W	GH560C9W	GH560B9W	GH560MI9W
	4W5P	0	③	3ØY277/480	GH560R7W	GH560P7W	GH560C7W	GH560B7W	GH560MI7W
	4W5P	0	⊕	3ØY347/600	GH560R5W	GH560P5W	GH560C5W	GH560B5W	GH560MI5W
63A	2W3P	0	\odot	220–240	GH363R6W	GH363P6W	GH363C6W	GH363B6W	GH363MI6W
	3W4P	0	☺	380–415	GH463R6W	GH463P6W	GH463C6W	GH463B6W	GH463MI6W
	4W5P	0	⊙	220/380 240/415	GH563R6W	GH563P6W	GH563C6W	GH563B6W	GH563MI6W
100A	2W3P	0	\odot	125	N/A	GH3100P4W	GH3100C4W	GH3100B4W	GH3100MI4W
	2W3P	0	\odot	250	N/A	GH3100P6W	GH3100C6W	GH3100B6W	GH3100MI6W
	2W3P	0	\odot	480	N/A	GH3100P7W	GH3100C7W	GH3100B7W	GH3100MI7W
	3W4P	٨	③	125/250	N/A	GH4100P12W	GH4100C12W	GH4100B12W	GH4100MI12W
	3W4P	0	\odot	3Ø250	N/A	GH4100P9W	GH4100C9W	GH4100B9W	GH4100MI9W
	3W4P	0	0	3∅480	N/A	GH4100P7W	GH4100C7W	GH4100B7W	GH4100MI7W
	3W4P	0	\odot	3∅600	N/A	GH4100P5W	GH4100C5W	GH4100B5W	GH4100MI5W
	4W5P	0	⊕	3ØY120/208	N/A	GH5100P9W	GH5100C9W	GH5100B9W	GH5100MI9W
	4W5P	0	③	3ØY277/480	N/A	GH5100P7W	GH5100C7W	GH5100B7W	GH5100MI7W
	4W5P	0	ⓒ	3ØY347/600	N/A	GH5100P5W	GH5100C5W	GH5100B5W	GH5100MI5W
125A	2W3P	0	\odot	220–240	GH3125R6W	GH3125P6W	GH3125C6W	GH3125B6W	GH3125MI6W
	3W4P	0	③	380–415	GH4125R6W	GH4125P6W	GH4125C6W	GH4125B6W	GH4125MI6W
	4W5P	0	0	220/380 240/415	GH5125R6W	GH5125P6W	GH5125C6W	GH5125B6W	GH5125MI6W

Non-hazardous Heavy Duty Industrial For 20, 30, 60 & 100 Amp IEC 309 Receptacles and Inlets

Eaton's Crouse-Hinds Angled Back Box Adapters install IEC 309 receptacles or inlets to existing back boxes at a 15° angle, eliminating plug cord stress and maximizing wiring capacity.

Designed with a square footprint, the angled back box adapter allows the conduit openings to be positioned vertically or horizontally.

Features:

- Square footprint on adapter allows back box conduit openings to be positioned vertically or horizontally
- 15° angle eliminates cord stress on attached plug
- Heavy duty cast aluminum back boxes are ideal for abusive environments
- Epoxy powder coat finish available for additional corrosion resistance
- Stainless steel hardware
- · Quick and easy to install
- Neoprene gasket provided between adapter and back box for additional weather resistance



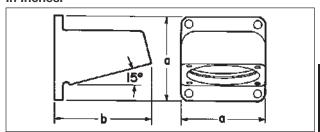


Ordering Information:

Rating of Receptacle or Inlet	Angled Adapter Cat. #	Mating Square Back Box Cat. #
20A	AR30	ARRH/ARRC 13, 23, 33
30A	AR30	ARRH/ARRC 13, 23, 33
60A	AR601	ARRH/ARRC 36, 46, 56
100A	AR100	AJ/AJC 46, 56

Dimensions

In Inches:



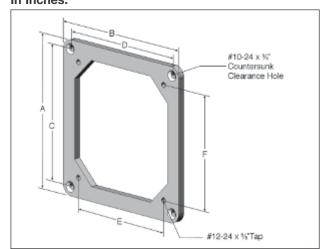
Cat. #	Α	В	Receptacle/Inlet Footprint	
AR30	3.4	3.9	2.74×2.74	
AR601	4.3	4.9	3.03×3.34	
AR100	5.9	6.2	4.09×4.09	

Eaton's Crouse-Hinds H-Series Adapter Plates permit an Eaton's Crouse-Hinds IEC 309 receptacle or inlet to be mounted to back boxes of other manufacturers. Please ask your sales representative for further assistance.

Features:

- Heavy duty aluminum plate fits directly to the Hubbell footprint
- Adapter plate is engineered to be used with the gasket that is provided with the Eaton's Crouse-Hinds receptacle or inlet
- Provided gasket maintains watertight integrity between adapter plate and back box
- Stainless steel hardware provided for attaching adapter plate to back box and receptacle or inlet to adapter plate
- Corrosion-resistant
- Quick and easy to install

Dimensions In Inches:



Hubbell Overall Size Footprin			Eaton Crous Footp	e-Hinds		
Cat. #	Α	В	С	D	E	F
CHAP30H	4.03	3.78	3.13	3.13	2.74	2.74
CHAP60H	4.53	4.53	3.88	3.88	3.03	3.35
CHAP100H	5.53	5.53	4.88	4.88	4.09	4.09





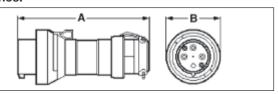
Ordering Information:

Rating of Eaton's Crouse-Hinds Receptacle or Inlet	Cat. # of Hubbell Back Box	Adapter Plate Cat. #
20A/30A	BB201W/BB301W	CHAP30H
60A	BB601W/BB602W	CHAP60H
100A	BB1001W/BB1002W	CHAP100H

1416

Non-hazardous Heavy Duty Industrial Dimensions

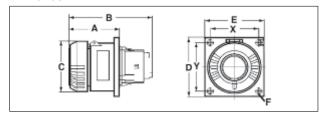
Plug Dimensions In Inches:



			Cord Range		
Amps	Α	В	3-Pole	4-Pole	5-Pole
20/16A	7.37	3.00	0.315-0.748	0.315-0.748	0.472-0.827
30/32A	7.37	3.00	0.314-0.748	0.315-0.748	0.472-0.827
60/63A	10.71	4.33	0.630-1.378	0.630-1.378	0.827-1.378
100/125A	12.32	5.16	0.827-1.89	0.827-2.28	1.22-2.28

Receptacle Dimensions

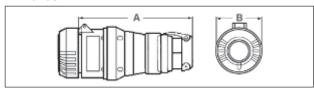
In Inches:



Amps	Α	В	С	D	E	F Dia.	MTC. X	Dims. Y
20/16A	2.95	4.37	3.31	3.38	3.38	0.236	2.74	2.74
30/32A	3.35	4.92	3.74	3.38	3.38	0.236	2.74	2.74
60/63A	4.57	6.18	4.61	4.13	4.13	0.236	3.50	3.50
100/125A	4.81	6.56	4.80	5.12	5.32	0.250	4.09	4.09

Connector Dimensions

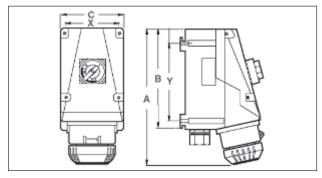
In Inches:



			Cord Range		
Amps	Α	В	3-Pole	4-Pole	5-Pole
20/16A	8.58	3.38	0.315-0.748	0.315-0.827	0.472-0.827
30/32A	10.40	3.82	0.315-0.748	0.315-0.827	0.472-0.827
60/63A	12.52	4.61	0.630-1.378	0.630-1.378	0.827-1.378
100/125A	13.40	5.32	0.827-1.89	0.827-2.28	1.22-2.28

Interlock Dimensions

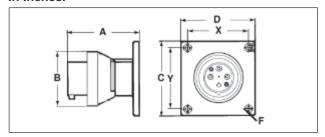
In Inches:



Amps	Α	В	С	x	Υ	20, 30 60, 100A Hub	16, 32, 63, 125A Cable Gland
20/16A*	8.8	6.7	3.5	3.7	4.5	1/2	M20
20/16A	9.3	6.9	4.3	3.9	5.3	3/4	M25
30/32A	11.2	8.07	4.7	4.3	6.7	1	M32
60/63A	18.7	12.3	7.9	7.1	10.9	11/4	M40
100/125A	21.1	13.3	8.9	8.1	11.9	11/2	M63
*3 Pole only.							

Inlet Dimensions

In Inches:

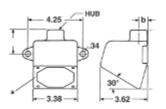


Amps	Α	В	С	D	F Dia.	MTC. X	Dims. Y
20/16A	3.27	3.02	3.38	3.38	0.236	2.74	2.74
30/32A	4.26	3.75	3.38	3.38	0.236	2.74	2.74
60/63A	5.44	4.34	4.13	4.13	0.236	3.50	3.50
100/125A	5.48	5.20	5.12	5.32	0.250	4.09	4.09

5P IEC 309 Pin and Sleeve Devices

Non-hazardous Heavy Duty Industrial Accessories

Back Box Dimensions In Inches:

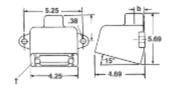


Cat. #	Hub	Α	В
ARE13	1/2	1.84	0.69
ARE23	3/4	1.84	0.81
ARE33	1	1.97	0.94

*Footprint: 2.74 x 2.74

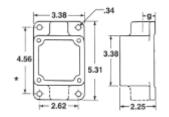
‡Footprint: 4.09 x 4.09

60A & 63A Cast Aluminum



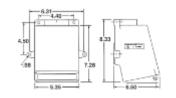
Cat. #	Hub	Α	В		
ARE36	1	2.56	0.69		
ARE46	11/4	2.62	1.19		
ARE56	1 1/2	2.69	1.31		
†Footprint: 5.4 x 2.74					

16, 20, 30, & 32A Cast Aluminum



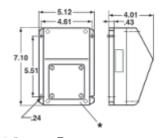
Cat. #	Hub	Hub Config.	G
ARRH13	1/2	Dead End	0.69
ARRH23	3/4	Dead End	0.81
ARRH33	1	Dead End	0.94
ARRC13	1/2	Feed Thru	0.69
ARRC23	3/4	Feed Thru	0.81
ARRD33	1	Feed Thru	0.94
*Ecotorint: 2.7	14 × 2 74		

100A & 125A Cast Aluminum



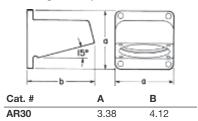
Cat. # Type
CHBB1 100A & 125A Cast Aluminum

30A Non-metallic



Cat. # Type
CHBB2 30A Non-metallic
*Footprint: 2.74 x 2.74 (Not UL Listed)

Aluminum Fits ARRH and ARRC 30A Angle Adapter Cast











nclosure Closure Plug	Enclosure Cable Gland	Enclosure Myers Hub	Plug Closure Cap		Туре
CHCP20	CHCG20	STM 1	CHCC320	3-pole	
CHCP25	CHCG25	STM 2	CHCC420 CHCC520	4-pole 5-pole	20/16A
			CHCC3430	3-pole	
CHCG40	CHCG40	STM 3	011000400	4-pole	30/32A
			CHCC530	5-pole	
				3-pole	
CHCP50	CHCG50	STM 4	CHCC60	4-pole	60/63A
				5-pole	
CHCP63	CHCG63	STM 5	CHCC100	3-pole 4-pole 5-pole	100/125A
	CHCG50	STM 4	CHCC60	5-pole 3-pole 4-pole 5-pole 3-pole 4-pole	60/63A

Wiring Devices With Covers Non-hazardous

Description	Page No.
Wet Location Covers	
Applications/Features	see pages 1420-1421
Ordering Information	see pages 1420-1421

For NEMA Configuration Receptacle Interiors For FS and FD Cast Device Boxes Flush Device Boxes

Applications:

WLRS, WLRD and WLGF series covers are suitable for use in wet and damp locations. WLGF is suitable for damp and wet locations only when cover is closed. WLRS and WLRD series wiring device covers are designed to meet the total NEC Code requirements for wet locations – Article 410-57:

"A receptacle installed outdoors where exposed to weather or in other wet locations shall be in a weatherproof enclosure, the integrity of which is not affected when the receptacle is in use (attachment plug cap inserted)."

Use WLRS, WLRD and WLGF:

- Wherever portable equipment is required
- As general purpose utility receptacle covers
- For industrial, commercial or residential use
- In areas where electrical requirements do not exceed medium duty ratings
- To mount FS and FD single-gang or multi-gang boxes having individual cover openings (see Sect. 2F for listings)
- To mount on most flush device boxes (see Accessories)

Features:

WLRS, WLRD and WLGF covers:

- Self-closing spring door assures protection of wiring device at all times, in wet and damp locations
- One piece EPDM gasket provides environmental protection of wiring device at all times
- Specially formulated elastomeric gasketing material offers excellent resistance to ozone, weather and temperature extremes of -50°F to 260°F
- Die cast, copper-free aluminum construction with aluminum lacquer finish provides maximum corrosion resistance
- Positive ground path ensured for all exposed metal parts

NEMA configuration receptacle interiors:

- Comply with NEMA Standards WD-1 and WD-5
- Grounded through an extra contact in all types except 3-phase applications; selfgrounded in duplex variety
- Back and side wired
- Offered in single and duplex configurations for use with standard plugs
- Specification grade

Certifications and Compliances:

- ANSI/UL Standard: 514A
- NEC Code 410-57
- NEMA Standards: WD-1, 1983 (Straight Blade) and WD-5, 1982 (Locking Type)

Standard Materials:

- WLRS, WLRD and WLGF face plate and cover – die cast copper-free aluminum
- Cover hinge spring stainless steel
- Cover screws corrosion resistant metal
- Gasket WLRS and WLRD ethylene propylene rubber (EPDM)
- Gasket WLGF neoprene

Standard Finishes:

• Copper-free aluminum

Electrical Rating Ranges:

- 15 amperes; 125, 250, or 277 volts
- 20 and 30 amperes; 125, 250, 277, 480, 600, 125/250, 208/120, 480/277 or 600/347 volts



Typical Installation

Accessories:

 Flush mounting adapter – WLRA-1 required for mounting on device boxes (not required with WLGF)

Spring Door Covers - with Gasket*



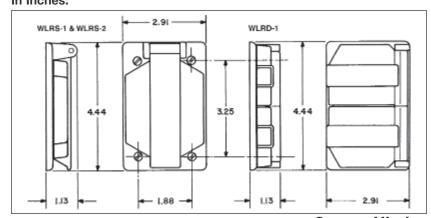




Duplex Cover

Cat. #	Description	Opening Dia.
WLRS1	Single cover	13/8"
WLRS2	Single cover	11/2"
WLRD1	Duplex cover	13/8"
*Patent Number 4,058,358		

Dimensions In Inches:



Crouse-Hinds

WLRS, WLRD and WLGF Wet Location Covers

Covers with and without NEMA Configuration Receptacles Single Device

Туре	Volts	NEMA Configuration		Complete Cover with Receptacle Assy. Cat. #	Spring Door Cover & Gasket Only Cat. #‡
For Non-loc	king Bl	ade Plu	ugs		
2-Pole 3-Wire	125V		5-15R	WLRS 5 15	WLRS1
Grounding 15 Amp	250V	<u></u>	6-15R	WLRS 6 15	WLRS1
2-Pole 3-Wire	125V		5-20R	WLRS 5 20	WLRS1
Grounding 20 Amp	250V	@	6-20R	WLRS 6 20	WLRS1
For Locking	Blade	Plugs			
2-Pole 3-Wire	125V		L5-15R	WLRS L5 15	WLRS1
Grounding 15 Amp	250V		L6-15R	WLRS L6 15	WLRS1
2-Pole 3-Wire Grounding 20 Amp	125V		L5-20R	WLRS L5 20	WLRS2
	250V	(P. p.)	L6-20R	WLRS L6 20	WLRS2

Duplex Device

Туре	Volts	NEMA Confi	\ guration	Complete Cover with Receptacle Assy. Cat. #	Spring Door Cover & Gasket Only Cat. #‡
For Non-loo	king Bl	ade Plu	ıgs		
2-Pole 3-Wire	125V		5-15R	WLRD 5 15	WLRD1
Grounding 15 Amp	250V	<u></u>	6-15R	WLRD 6 15	WLRD1
2-Pole 3-Wire	125V	(B)	5-20R	WLRD 5 20	WLRD1
Grounding 20 Amp	250V	6	6-20R	WLRD 6 20	WLRD1

For Locking Blade Plugs

2-Pole	
3-Wire	

15 Amp

Grounding

L5-15R WLRD L5 15 WLRD1

Wet Location Covers for GFCI Duplex Receptacles:



WLGF - horizontal mount for flush device boxes.

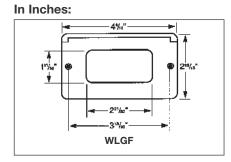


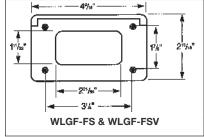
WLGF FS - horizontal mount for FS and FD device boxes.



WLGF FSV - vertical mount for FS and FD device boxes.

Dimensions





‡ Must be used with a wet locations rated wiring device.

Cable-Gard™ Industrial Cable Management System Non-hazardous

Description	Page No.
Static Discharge Reels	see page 1424
Cable Reels	
Application	see pages 1425-1426
Technical Data	see pages 1425-1426
Lifting/Stretching Reels	see page 1427
Retrieve Reels	see page 1428

7P Cable-Gard™ Static Discharge Reels

Applications:

Static discharge reels are used for grounding portable machines and equipment in hazardous areas, such as fuel transfer trucks, grain elevators, dockside loading facilities and barges. When properly clamped to ground the static discharge reel safely dissipates static electrical build-up and reduces the chance of sparking and the potential for explosion.

Features:

- · Automatic rewinding
- Rugged steel construction
- Compact enclosed design
- · Positive ratchet lock
- Lock on/lock off switch
- Steel cable installed
- 100 amp universal jaw-type grounding clamp
- Safety orange polyester baked-on finish



• Housing - steel construction

Standard Finishes:

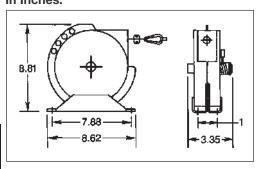
• Housing - orange polyester; baked on finish

Ordering Information:

Cable Length (Feet)	Description	Weight (Complete (Kg)	Cat. #
50	Single 7 × 30 steel*	12	(5.4)	SDR 50
50	35' plus 2 × 15' for Y (steel*)	13	(5.9)	SDR 50Y
50	Nylon covered cable*	12	(5.4)	SDR 50N

^{*}Static discharge reels are supplied complete with ½" steel aircraft cable. DC resistance is approximately one ohm per 50 ft. of steel cable.

Dimensions In Inches:





Applications:

Cable-Gard cable reels are designed for the constant, predictable pull of a machine and are designed for reliable operation in many applications. Typical uses include travelling cars, mobile hoists and various objects being lifted under power such as lifting magnets on cranes.

Features:

- Unitized slip ring assembly transfers current from stationary to rotary.
 Brushes are an integral part of the slip ring assembly.
- Safe to change spring motor that is sized per application, clock type spring with window shade type action. Sealed in disposable housing, spring is never exposed to unravel and possibly harm.
- Watertight cable entrance terminates cord to reel spool with positive grip, watertight seal.
- Large junction box with ¾4" NPT conduit entrance may be positioned in choice of four directions.
- Multi-position roller guide is adjustable to 4 different positions. Allows easy adaptation of reel to positioning requirements of the application and controlled uniform retraction of cable onto spool. Roller guides are optional; consult factory.
- Baked-on powder epoxy finish provides tightly bonded, homogenous shield to abrasion and corrosion.
- Ratchet lock is provided for window shade type action. May be easily disengaged in field for constant tension applications.

Certifications and Compliances:

- ANSI/UL 355
- CSA C22.2
- NEMA 3, 3R

Standard Materials:

• Frame, spool - steel

Standard Finishes:

• Baked on powder epoxy - orange

Options:

Description Suffix

• Ball stop – keeps cable from rewinding out of reach in hand-pull applications.

Cable Range O.D. Min./Max. St	ıff
.38 – .50 C1	1
.50 – .75	2
.75 – 1.00 C3	3
Ball stop may be ordered separately;	
use suffix number as catalog	
number	

 Pivot base – Pivot base allows 340° rotation of reel. Required for applications demanding reel selfalignment to direction of the cable

Tο	order	se	nar	atel	v:

Series	Pivot Base Cat. #
W14	PB14
W16	PB16
W19	PB19

Reel supplied less cable......

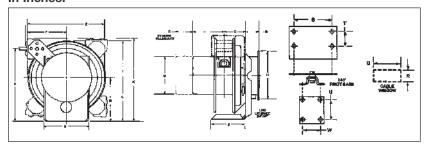
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Electrical Ranges:

- 600 VAC (cable reel)
- Cord: #16 #10, Type "SO", #8, Type "W", or Type "G" (see listings).

Dimensions In Inches:

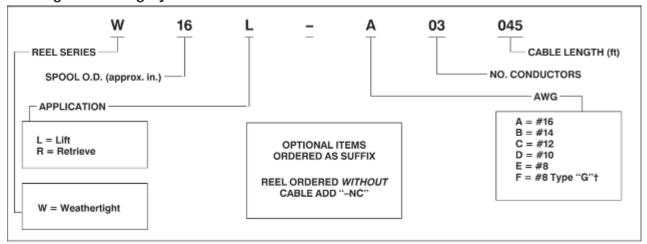


Frame Size	С	D	E	F	G	Н	J	K	L	M	N	Р	Q	R
W14	3.75	2.75	13.75	8.25	7.00	9.25	6.12	16.25	15.00	8.12	8.00	14.25	2.50	1.25
W16	5.50	2.75	15.75	9.31	7.00	9.25	7.94	18.25	17.00	9.12	8.50	16.25	3.00	1.25
W19	5.75	2.75	19.00	10.00	10.50	9.25	7.00	20.50	20.25	10.75	11.00	18.50	3.50	1.25

Slip Ring Housing Dimensions:

W14	W16			W19				
Poles/Amps	Α	В	Poles/Amps	Α	В	Poles/Amps	Α	В
1–4; 30 Amps 5–8; 30 Amps 9–12; 30 Amps 1–4; 55 Amps	6.00 7.50	7.19 8.69	1–4; 30 Amps 5–8; 30 Amps 9–12; 30 Amps 1–4; 54 Amps	6.00 7.50	7.44 8.94	1–4; 30 Amps 5–8; 30 Amps 9–12; 30 Amps 1–4; 55 Amps	3.25 4.50 6.00 4.50	6.69 8.19

Catalog Numbering System:



† Type "G" cable is supplied with a ground conductor.

Reel Selection Process:

Determine:

1. Cable Size and No. of Conductors

Be sure to choose cable that will adequately handle the current load (include ground when stating number of conductors). If the desired cable is not listed, consult factory.

2. Cable Length

Reels in this brochure will handle up to 150 feet of cable. Decide how far your equipment will travel from the reel and choose the appropriate column. The amount of cable needed to install the cable on the reel has been included. However, you must add: 1) the amount of cable needed for Hook-Up to your equipment, and

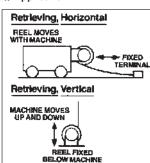
2) Cable Sag Allowance if "Stretch" applications (see footnote*). Round up to the nearest footage on the selection chart.

Cable Length Needed = Equipment Travel Distance Plus Hook-Up Plus Sag Allowance. (Sag allowance needed for "stretch" applications only.)

3. Type Of Cable

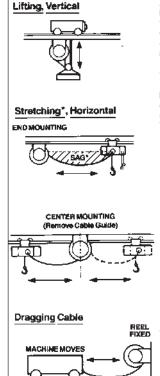
This is important as stranding and construction vary. Cable-Gard reels are provided with cable as listed in the electrical ranges listed on previous page.

4. Application



A horizontal retrieve application is identified when the reel is mounted on the moving equipment. The reel pays out and picks up the cable from a tray or other support.

This application requires the reel to wind and unwind the cable but not lift or support the cable. A typical example is where the reel is mounted to the ground and the cable is attached to an elevating machine. In some cases the cable is anchored above and the reel rices up and down on an elevating machine.



Any application where cable is simply hoisted vertically with the real lifting only the weight of the cable. Special considerations must be given to any weight added to the end of the cable such as a push-button station. Listed spring tension is not designed to accommodate added weight. Consult the manufacturer for a specific recommendation.

In addition to being capable of lifting cables vertically, all reels listed will stretch cables horizontally as shown. When stretching horizontally (unsupported, except at the reel and the moving current consumer) the say or droop of the cable may be important. Spring tension on these reels is designed to provide for 8 - 10% sag at the midpoint of travel when fully extended. Stronger tension could be a problem for light, free moving loads which tend to be pulled toward the reel. The cable weight alone can pull a light load.

CENTER MOUNTING (cable guide is removed) can save over the cost of end mounting. For example, a machine traveling 50 ft, can be serviced by a centre mounted reel equipped with 25 ft. of cable. A comparable end-mounted reel would require the full 50 ft, of cable.

Drag applications refer to a reel mounted in a fixed (non-moving) position and the cable terminated on a moving machine. As the *machine* moves, the cable is pulled off of the reel and "dragged" over the surface. This is **NOT** a recommended application because of abuse to the cable resulting in shortened life.

*Sag allowance must be considered when figuring cable length for STRETCH applications. Add 1 ft. of cable for each 50 ft. of working cable calculated for your application. (Working cable excludes hook-up length.)

7P

Reels for Lifting/Stretching:

EXAMPLES:

A hoist is to travel 52 feet along an I-beam – this is a Stretch application. Required cable is 4 Conductor/No. 14. Hook-up is 2

The following EXAMPLES appear in bold type in the selection charts.

- 1. If the reel must be END MOUNTED, the required cable length would be 52 feet, plus 2 feet for the hook-up plus 2 feet for sag consideration*. Round up to 60 feet per the available footage in the chart below. The correct model to choose would be W16L-B04060.
- 2. If the reel may be CENTER MOUNTED, only half as much cable is required - it will be used in both directions. Half of the required length would be 26 feet, plus 2 feet for the hook-up plus 1 foot for sag consideration for a total of 29 feet. Round up to 30 feet and choose model W14L-B04030. A savings will be realized because less cable was used and, thus, a smaller reel was required.

Selection Chart:

Wire Size	No. of Cond.	20 Feet	30 Feet	40 Feet	50 Feet	60 Feet	70 Feet
Size	3	W14L A03020	W14L A03030	W14L A03040	W16L A03050	W16L A03060	W19L A03070
	4	W14L A04020	W14L A04030	W14L A04040	W16L A04050	W16L A04060	W19L A04070
	6	W14L A06020	W14L A06030	W14L A06040	W14L A06050	W16L A06060	W19L A06070
16	8	W16L A08020	W16L A08030	W16L A08040	W16L A08050	W16L A08060	W19L A08070
	10	W16L A10020	W16L A10030	W16L A10040	W16L A10050	W19L A10060	W19L A10070
	12	W16L A12020	W16L A12030	W16L A12040	W16L A12050	W19L A12060	W19L A12070
	3	W14L B03020	W14L B03030	W14L B03040	W14L B03050	W16L B03060	W16L B03070
	4	W14L B04020	W14L B04030	W14L B04040	W14L B04050	W16L B04060	W16L B04070
	6	W14L B06020	W14L B06030	W16L B06040	W16L B06050	W16L B06060	W19L B06070
14	8	W14L B08020	W16L B08030	W16L B08040	W16L B08050	W19L B08060	W19L B08070
	10	W14L B10020	W16L B10030	W19L B10040			
	12	W16L B12020	W16L B12030	W19L B12040			
	3	W14L C03020	W14L C03030	W14L C03040	W14L C03050	W16L C03060	W19L C03070
40	4	W14L C04020	W14L C04030	W14L C04040	W16L C04050	W16L C04060	W19L C04070
12	6	W14L C06020	W16L C06030	W16L C06040	W19L C06050	W19L C06060	
	8	W14L C08020	W16L C08030	W19L C08040			
	3	W14L D03020	W14L D03030	W14L D03040	W16L D03050	W16L D03060	W19L D03070
10	4	W14L D04020	W14L D04030	W16L D04040	W16L D04050	W19L D04060	W19L D04070
	6	W16L D06020					
	2	W14L E02020	W16L E02030	W16L E02040	W19L E02050		
8	3	W16L E03020	W16L E03030	W19L E03040			
0	3†	W14L F03020	W16L F03030	W19L F03040			
	4	W16L E04020	W16L E04030	W19L E04040			

^{*}Sag allowance must be considered when figuring cable length for Stretch applications. Add 1 foot of cable for each 50 feet of working cable calculated for your application. (Working cable excludes hook-up length.) †Type "G" cable.

Reels for Retrieving:

EXAMPLES:

A moving car is to travel 55 feet. Required cable is 4 Conductor/No. 10. Extra cables needed to hook up to the car is 2 feet.

The following EXAMPLES appear in bold type in the selection charts.

- If the reel must be END MOUNTED, the required cable length would be 55 feet, plus 2 feet for the hook-up. Round up to 60 feet per the available footage in the chart below. The correct model to choose would be W19R-D04060.
- 2. If the reel may be CENTER MOUNTED, only half as much cable is required it will be used in both directions. Half of the required length would be 27.5 feet, plus 2 feet for the hook-up for a total of 29.5 feet. Round up to 30 feet and choose model W14R-D04030. A savings will be realized because less cable was used and, thus, a smaller reel was required.

Selection Chart:

Wire	No. of				1	1	
Size	Cond.	20 Feet	30 Feet	40 Feet	50 Feet	60 Feet	70 Feet
	3	W14R A03020	W14R A03030	W14R A03040	W16R A03050	W16R A03060	W19R A03070
	4	W14R A04020	W14R A04030	W14R A04040	W16R A04050	W16R A04060	W19R A04070
16	6	W14R A06020	W14R A06030	W14R A06040	W14R A06050	W16R A06060	W19R A06070
10	8	W14R A08020	W14R A08030	W16R A08040	W16R A08050	W16R A08060	W19R A08070
	10	W14R A10020	W14R A10030	W16R A10040	W16R A10050	W19R A10060	W19R A10070
	12	W14R A12020	W14R A12030	W16R A12040	W16R A12050	W19R A12060	W19R A12070
	3	W14R B03020	W14R B03030	W14R B03040	W14R B03050	W16R B03060	W19R B03070
	4	W14R B04020	W14R B04030	W14R B04040	W14R B04050	W16R B04060	W19R B04070
14	6	W14R B06020	W14R B06030	W16R B06040	W16R B06050	W16R B06060	W19R B06070
14	8	W14R B08020	W16R B08030	W16R B08040	W19R B08050	W19R B08060	W19R B08070
	10	W14R B10020	W16R B10030	W19R B10040			
	12	W16R B12020	W16R B12030	W19R B12040			
	3	W14R C03020	W14R C03030	W14R C03040	W14R C03050	W16R C03060	W16R C03070
	4	W14R C04020	W14R C04030	W14R C04040	W16R C04050	W16R C04060	W19R C04070
12	6	W14R C06020	W16R C06030	W16R C06040	W19R C06050	W19R C06060	W19R 06070
12	8	W14R C08020	W16R C08030	W19R C08040			
	10						
	12						
	3	W14R D03020	W14R D03030	W14R D03040	W16R D03050	W16R D03060	W16R D03070
10	4	W14R D04020	W14R D04030	W16R D04040	W16R D04050	W19R D04060	W19R D04070
10	6	W14R D06020	W19R D06030	W19R D06040			
	8	W19R D08020	W19R D08030				
	2	W14R E02020	W16R E02030	W16R E02040	W19R E02050	W20AR E02060	
8	3	W14R E03020	W16R E03030	W19R E03040			
0	3†	W14R F03020	W16R F03030	W19R F03040			
	4	W16R E04020	W16R E04030	W19R E04040			

†Type "G" cable.

Special Purpose Plugs and Receptacles Hazardous and Non-hazardous

Description	Page No.
Application/Selection	see page 1430
Circuit Breaking Power Connectors – ARK-trol®	
RPC Series (Non-hazardous)	
Accessories	see page 1444
Adapters and Back Boxes	see page 1445
Dimensions	see pages 1446-1447
General Information	see page 1431
Listings	see pages 1434-1441
Control Circuit and Power Connectors – ARK-trol®	
RPE Series (Non-hazardous)	
Accessories	see page 1444
Adapters and Back Boxes	see page 1445
Dimensions	see pages 1446-1447
General Information	see page 1431
Listings	see pages 1442-1443
Delayed Action	
RPX "Time-Slot" Series (Hazardous)	see pages 1450-1451

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8P Special Purpose Plugs and Receptacles

Application

Applications:

Special purpose plugs and receptacles listed in this section are for use in non-hazardous areas, where environmental or application considerations require non-standard plugs and receptacles. Included in this section are ARK-trol® plugs and receptacles (RPC and RPE).

ARK-trol Plugs and Receptacles:

- Are used with a wide range of equipment requiring a variety of contact configurations under conditions of hard usage and exposure to rigorous environments.
- Two basic non-hazardous types: RPC – circuit breaking power connectors; RPE – control circuit, power and welding connectors.
- One hazardous type: RPX "Time Slot" delayed action connectors.

RPC – A variety of configurations (with a maximum of five-poles) are available for one and three-phase circuits. Electrical range is 30, 60, 100, 200 amperes at a maximum of 600 VAC.

RPE – A wider range of configurations are available, including options with up to 39 pins.

Both types are available (either as standard or as option) with solder well terminals for high reliability, or crimp or pressure terminals for ease of installation. Listings on the following pages show complete assemblies with mating plugs and components.

RPX – Available in similar configurations as the RPC line, but can be used in areas which are hazardous.

2

ARK-trol® Electrical Connectors

RPC Circuit Breaking Power Connectors RPE Control Circuit and Power Connectors Non-hazardous Areas

Applications:

ARK-trol RPC circuit breaking power connectors and RPE control circuit power connectors are used:

- With a wide variety of portable electrical equipment
- For connection of devices ranging from simple lighting units, power tools, and similar portables requiring only a power supply circuit, to sophisticated control and instrumentation assemblies requiring disconnect
- Under conditions of hard usage and where exposed to dust, dirt, water, corrosion and chemical attack, providing high reliability and trouble-free service
- Indoors or outdoors in non-hazardous areas of petroleum refineries, chemical and petrochemical plants, manufacturing plants, military installations and similar locations
- On machine tools and similar equipment

Features:

 All ARK-trol connectors have the same properties, characteristics and environmental capabilities outlined under "Compliances"

Construction:

- All ARK-trol plug, receptacle and cord connector shell parts are of high-strength impact extruded aluminum, hard coated with a high density anodize finish. The resultant assemblies are lightweight, extremely strong, free from surface defects and flaws, and with superior resistance to abrasion, corrosion and chemical attack.
- "Tri-Disc" insert assemblies consist of two rigid insulators with a silicone rubber wafer between to provide a cushioning action against mechanical damage and to effect a positive seal against penetration by water, moisture, dust, gas and other undesirable matter. Assembly of the inserts compresses the silicone wafer to seal against the inner wall of the plug or receptacle shell, and around each individual contact.
- ARK-trol insulating material is of high dielectric and mechanical strength with low moisture absorption and excellent resistance to arc tracking. Socket contacts are each enclosed in a separate chamber in the silo insulator. Arcs formed while making or breaking a circuit are quickly snuffed out in the chambers.
- Contacts are removable and, for ease of installation, are snapped into the insert assemblies after wire termination.
 Termination methods employed are solder, crimp and pressure. Solder well contacts are standard and are furnished unless otherwise specified. Crimp

- contacts are available in all sizes and configurations. Pressure contacts, due to increased terminal area, are available only in certain assemblies as shown in the listings.
- For cable strain relief and watertight seal, plugs and cord connector receptacles are provided with gland nut and tapered neoprene bushing.
- Contacts are removable and, for ease of installation, are snapped into the insert assemblies after wire termination.
 Termination methods employed are solder, crimp and pressure. Solder well contacts are standard and are furnished unless otherwise specified. Crimp contacts are available in all sizes and configurations. Pressure contacts, due to increased terminal area, are available only in certain assemblies as shown in the listings.
- For cable strain relief and watertight seal, plugs and cord connector receptacles are provided with gland nut and tapered neoprene bushing.

Positive Polarization:

- Polarization of ARK-trol connectors is such that plugs and receptacles cannot be mated incorrectly.
- Insert assemblies must be correctly aligned and will fit plug and receptacle shells in one position only, because of a raised key on the inner wall of the shells.
- Seven keys on the inner wall of the receptacle and seven mating keyways on the outer diameter of the plug shell are spaced so that the plug and receptacle can be mated in one position only. One key and one keyway are larger than the other six as a guide to rapid connection, easily performed under adverse field conditions – even in total darkness.

Interchangeability:

 Shell components and insert assemblies in each diameter are interchangeable.
 Both male and female basic shells will accept either pin or socket inserts. This feature permits the use of both plug and receptacle in either an energized or deenergized condition.

Grounding:

- Grounded connectors have pin and socket contacts with integral grounding straps which press against the inner wall of plug, receptacle and cord connector shells, effectively bonding the shells to the grounding contacts.
- Grounding socket contacts are longer than current carrying contacts to make first and break last, assuring a positive ground before circuits are energized and after circuits are de-energized.

Standard Materials:

- Back boxes and adapters copper-free aluminum
- Plug, receptacle and cord connector shells impact extruded aluminum
- Insulation diallyl phthalate (DAP)
- Insulation fiberglass-reinforced polyester material
- Sealing wafer silicone rubber
- Contacts hard drawn copper

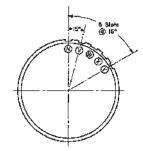
Standard Finishes:

- Copper-free aluminum natural
- Impact extruded aluminum hard coat anodized
- Diallyl phthalate natural (blue)
- Fiberglass-reinforced polyester material – natural (red)
- Silicone natural (grey)
- Copper silver plated

Options:

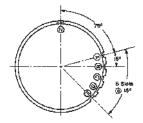
Alternate polarities – ungrounded connectors. Standard polarity is position "N" shown below. Alternate positions "V", "W", "X" or "Y" can be furnished. To order, substitute for the letter "N" in the listed Cat. No., the letter for the desired polarization.

Example: RPC217-127-SO1N-ARE23 with polarity "X" becomes RCP217-127-SO1X-ARE23



 Alternate polarities – grounded connectors. Standard polarity is position "A" shown below. Alternate positions "B", "C", "D" or "E" can be furnished.
 To order, substitute for the letter "A" in the listed Cat. No., the letter for the desired polarization.

Example: RPC217-127-SO2A-ARE23 with polarity "D" becomes RPC217-127-SO2D-ARE23.



RPC Circuit Breaking Power Connectors RPE Control Circuit and Power Connectors Non-hazardous Areas

Options (continued):

 Crimp type contacts – available on all assemblies with solder well contacts. To order, add letter "T" to Cat. No., immediately following polarity letter.

Examples: RPC217-127–S01N-ARE23 and RPC217-127–S02A-ARE23 except with crimp contacts would be ordered as RPC217-127–S01NT-ARE23 and RPC217-127–S02AT-ARE23 respectively.

 Alternate cable strain relief methods for plugs and connectors:

Stainless steel wire mesh cord grip. To order, add letter "K" to first section of Cat. No.

Example: RPC117-150-P01N with wire mesh grip would be ordered as RPCK117-150-P01N.



Adapter for use with liquid tight/rigid conduit. To order, add letters "LT" to first section of catalog number. Example: RPC117-150-P01N with liquid tight/conduit adapter would be ordered as RPCLT117-150-P01N.

Electrical Rating Ranges:

- Voltage 250, 480 and 600VAC
- Frequency 50* to 400 hertz
- · See listings for specific ratings

Ampere Ratings:

- Ratings given in the table at right are applicable to RPC circuit breaking power connectors and RPE control connectors, as indicated.
- RPC connectors are capable of making or breaking circuits at the full rated load indicated in the table on the listing pages.
- Contact assemblies of RPE connectors have the current carrying capabilities shown in the table, as defined by applicable military specifications (MS) and NEC requirements, for circuits not made or broken under load. It should be noted that these non-interrupting ampere ratings exceed the NEC rating of the corresponding wire size.

Contact Size	RPC Circuit Breaking Connectors NEC	RPE Connectors Non-Interrupting Ampere Rating				
AWG	Rating	MS(AN)	NEC			
#16		22	16			
#12	20A	41	30			
#10	30A	57	40			
#4	60A	135	90			
1/0	100A	250	160			
4 / 0	200A	335	225			

Certifications and Compliances:

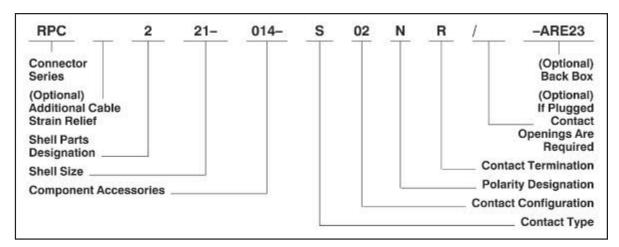
Certification	is and Comphances.
Properties Industrial use	Characteristics excludes dust, lint, fibers and flying, oil seepage and coolant seepage – meets J.I.C. Standard
Driptight	excludes falling moisture or dirt - materials unaffected by condensation
Weather resistant (weatherproof)	performs normally in outdoor areas
Watertight	excludes water by hose spray or stream
Dust-tight	excludes dust, but performs normally if dust is accidentally enclosed during disconnect
Chemical resistance	high resistant to alkalis, strong caustics, acids, petroleum base and organic solvents
Pressure	300 psi external – 200 psi internal

Compliance with Military Specifications

Environment	Performance Data
Corrosion resistance	salt spray 300 days. MIL-STD-810E
Temperature	-80°F to 275°F, meeting requirements of MIL-STD-810E
Air leakage	exceeds Class E specification MIL-STD-810E
Dust resistance	exceeds requirements of MIL-STD-810E
Shock resistance	50G exceeds MIL-STD-810E
Vibration	exceeds 20G, method II, MIL-STD-810E
Humidity & moisture	exceeds Class E specification MIL-STD-810E
ANSI/UL Standard	498

^{*}For use on system less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.

Catalog Numbering System



Connector Series:

RPC – circuit breaking RPE – for disconnect use only RPX – hazardous (gasoline or equivalent hazards)

Additional Cable Strain Relief (Optional):

K = Wire mesh cord gripLT = Liquidtight/conduit connection

Shell Parts Designation:

0 = No shell part required

1= Plug shell

2 = Receptacle

3 = Cord connector

4 = Connector handle body only

5 = Plug shell (long)

6 = Receptacle (long)

7 = Cord connector (long)

Shell Size:

Inside Diameter measured in X/16" (017, 021, 033, 041, i.e., 017 shell size = $^{17}/_{16}$ ")

Component Accessories:

This code indicates the combination of shell parts to fit your application; e.g., 014 = square flanged receptacle with insert ratining nut and dust cap; 150 = plug handle body, bushing, and clamping nut for cable with a diameter of .250 to .625.

Contact Type:

P = Pin (male) S = Socket (female)

Contact Configuration:

This assigned code indicates the actual configuration of the contacts (pin and socket) in the insert assembly for a particular shell size. This is based upon electrical ratings (amperage and voltage) and the number of contacts required. It does not indicate the number of contacts in the configuration.

Polarity Designation:

N = Standard position – ungrounded V, W, X or Y = Alternate positions – (ungrounded) A = Standard position – grounded B, C, D or E = Alternate positions – (grounded)

Contact Termination:

Blank = Solder well (standard unless noted) R = Pressure (See complete ordering information that follows for availability) T = Crimp (available in all configurations)

Plugged Contact Openings (Optional):

This option allows greater flexibility, allowing for unique wiring requirements. The number following the slash indicates the total number of contacts that will be supplied (including ground contact, if applicable); all other openings in the insert assembly will be plugged.

Back Boxes (Optional):

See page 1445 for back box information.

RPC Circuit Breaking Power Connectors With Solder Well Terminals†





	Circuit Description	Volts (VAC)	Contact Size	Shell Size	Hub Size (In.)	Square Flanged Receptacle, Dust Cap and Back Box Cat. # (For Surface Mounting)‡*	Motor Plug with Dust Cap Cat. #
20 Amps Grounded	4w, 5p	480	#12	017	³ / ₄	RPC217 014 S09A ARE23 RPC217 014 S09A ARE33	RPC117 157 P09A
Ungrounded	5w, 5p	480	#12	017	³ / ₄ 1	RPC217 014 S08N ARE23 RPC217 014 S08N ARE33	RPC117 157 P08N
30 Amps Grounded	2w, 3p	480	#10	017	³ / ₄ 1	RPC217 014 S02A ARE23 RPC217 014 S02A ARE33	RPC117 157 P02A
	3w, 4p	480	#10	017	³ / ₄ 1	RPC217 014 S04A ARE23 RPC217 014 S04A ARE33	RPC117 157 P04A
	4w, 5p	480	#10	021	³ / ₄	RPC221 014 S17A ARE23 RPC221 014 S17A ARE33	RPC121 157 P17A
Ungrounded	3w, 3p	480	#10	017	³ / ₄ 1	RPC217 014 S01N ARE23 RPC217 014 S01N ARE33	RPC117 157 P01N
	4w, 4p	480	#10	017	³ / ₄ 1	RPC217 014 S03N ARE23 RPC217 014 S03N ARE33	RPC117 157 P03N
	5w, 5p	480	#10	021	³ / ₄ 1	RPC221 014 S16N ARE23 RPC221 014 S16N ARE33	RPC121 157 P16N
60 Amps Grounded	3w, 4p	600	#4	033	1 ¹ / ₄ 1 ¹ / ₂	RPC233 014 S08A ARE46 RPC233 014 S08A ARE56	RPC133 157 P08A
	4w, 5p	480	#4	033	1 ¹ / ₄ 1 ¹ / ₂	RPC233 014 S09A ARE46 RPC233 014 S09A ARE56	RPC133 157 P09A
Ungrounded	4w, 4p	600	#4	033	1 ¹ / ₄ 1 ¹ / ₂	RPC233 014 S05N ARE46 RPC233 014 S05N ARE56	RPC133 157 P05N
	5w, 5p	480	#4	033	1 ¹ / ₄ 1 ¹ / ₂	RPC233 014 S06N ARE46 RPC233 014 S06N ARE56	RPC133 157 P06N

RPC Circuit Breaking Power Connectors With Solder Well Terminals†





Cable Diameter Range	Cord Connector Cat. #§	Plug Cat. #§
.250 to .625	RPC317 160 S09A	RPC117 150 P09A
.625 to .875	RPC317 161 S09A	RPC117 151 P09A
.250 to .625	RPC317 160 S08N	RPC117 150 P08N
.625 to .875	RPC317 161 S08N	RPC117 151 P08N
.250 to .625	RPC317 160 S02A	RPC117 150 P02A
.625 to .875	RPC317 161 S02A	RPC117 151 P02A
.250 to .625	RPC317 160 S04A	RPC117 150 P04A
.625 to .875	RPC317 161 S04A	RPC117 151 P04A
.625 to 1.000	RPC321 161 S17A	RPC121 151 P17A
1.000 to 1.187	RPC321 395 S17A	RPC121 387 P17A
.250 to .625	RPC317 160 S01N	RPC117 150 P01N
.625 to .875	RPC317 161 S01N	RPC117 151 P01N
.250 to .625	RPC317 160 S03N	RPC117 150 P03N
.625 to .875	RPC317 161 S03N	RPC117 151 P03N
.625 to 1.000	RPC321 161 S16N	RPC121 151 P16N
1.000 to 1.187	RPC321 395 S16N	RPC121 387 P16N
.875 to 1.375	RPC333 163 S08A	RPC133 153 P08A
1.375 to 1.625	RPC333 396 S08A	RPC133 388 P08A
1.625 to 1.875	RPC333 397 S08A	RPC133 389 P08A
.875 to 1.375	RPC333 163 S09A	RPC133 153 P09A
1.375 to 1.625	RPC333 396 S09A	RPC133 388 P09A
1.625 to 1.875	RPC333 397 S09A	RPC133 389 P09A
.875 to 1.375	RPC333 163 S05N	RPC133 153 P05N
1.375 to 1.625	RPC333 396 S05N	RPC133 388 P05N
1.625 to 1.875	RPC333 397 S05N	RPC133 389 P05N
.875 to 1.375	RPC333 163 S06N	RPC133 153 P06N
1.375 to 1.625	RPC333 396 S06N	RPC133 388 P06N
1.625 to 1.875	RPC333 397 S06N	RPC133 389 P06N

†Solder well terminals provided as standard. Crimp contacts are optionally available, add suffix T to catalog number. Example: RPC217-014-S09AT-ARE23. ‡For square flanged receptacle without dust cap, change the middle three digits of the catalog number from 014 to 127. Example: RPC217-127-S09A-ARE23. *For square flanged receptacle with dust cap for panel mounting, delete the last digits of the catalog number specifying the backbox. Example: RPC217-014-S09A. §For plugs and cord connectors: Liquidtight/Conduit Adapter –

To order with adapter, add letters "LT" to first section of catalog number. Example: RPCLT317-160-S09A. Additional Cable Strain Relief Options –
• Stainless steel wire mesh grip – To order, add letter

"K" to first section of catalog number. Example: RPCK317-160-S09A.

Note: RPC with pressure terminals are also available, see pages 1438-1441.

RPC Circuit Breaking Power Connectors With Solder Well Terminals†





	Circuit Description	Volts (VAC)	Contact Size	Shell Size	Hub Size (In.)	Square Flanged Receptacle, Dust Cap and Back Box Cat. # (For Surface Mounting)‡*	Motor Plug Cat. #
100 Amps Grounded	4w, 5p	600	1/0	041	1½ 2	RPC641 014 S04A AJ57 RPC641 014 S04A AJ67	RPC541 157 P04A
Ungrounded	5w, 5p	600	1/0	041	1½ 2	RPC641 014 S02N AJ57 RPC641 014 S02N AJ67	RPC541 157 P02N
200 Amps Grounded	3w, 4p	480	4/0	041	2 2½	RPC641 014 S10A AJ68 RPC641 014 S10A AJ78	RPC541 157 P10A

RPC Circuit Breaking Power Connectors With Solder Well Terminals†





Cable Diameter Range	Cord Connector Cat. #§	Plug Cat. #§
1.375 to 1.875	RPC741 164 S04A	RPC541 154 P04A
1.875 to 2.062	RPC741 398 S04A	RPC541 390 P04A
2.062 to 2.250	RPC741 399 S04A	RPC541 391 P04A
1.375 to 1.875	RPC741 164 S02N	RPC541 154 P02N
1.875 to 2.062	RPC741 398 S02N	RPC541 390 P02N
2.062 to 2.250	RPC741 399 S02N	RPC541 391 P02N
1.375 to 1.875	RPC741 164 S10A	RPC541 154 P10A
1.875 to 2.062	RPC741 398 S10A	RPC541 390 P10A
2.062 to 2.250	RPC741 399 S10A	RPC541 391 P10A

Note: RPC with pressure terminals are also available, see pages 1438-1441.

†Solder well terminals provided as standard. Crimp contacts are optionally available, add suffix T to catalog number. Example: RPC217-014-S09AT-ARE23. ‡For square flanged receptacle without dust cap, change the middle three digits of the catalog number from 014 to 127. Example: RPC217-127-S09A-ARE23. *For square flanged receptacle with dust cap for panel receptance delete the last digits of the catalog number. mounting, delete the last digits of the catalog number specifying the backbox. Example: RPC217-014-S09A. §For plugs and cord connectors: Liquidtight/Conduit Adapter –

To order with adapter, add letters "LT" to first section of catalog number. Example: RPCLT317-160-S09A.

Additional Cable Strain Relief Options –
• Stainless steel wire mesh grip – To order, add letter
"K" to first section of catalog number. Example: RPCK317-160-S09A.

RPC Circuit Breaking Power Connectors With Pressure Terminals





		Circuit Description	Volts (VAC)	Contact Size	Shell Size	Hub Size (In.)	Square Flanged Receptacle, Dust Cap and Back Box Cat. # (For Surface Mounting)■‡	Motor Plug Cat. #
3	0 Amps							
	Grounded	2w, 3p	600	#10	021	³ / ₄ 1	RPC221 014 S04AR ARE23 RPC221 014 S04AR ARE33	RPC121 157 P04AR
	Ungrounded	3w, 3p	600	#10	021	³ / ₄ 1	RPC221 014 S02NR ARE23 RPC221 014 S02NR ARE33	RPC121 157 P02NR
6	0 Amps							
	Grounded	3w, 4p	600	#4	033	1 1/4 1 1/2	RPC233 014 S08AR ARE46 RPC233 014 S08AR ARE56	RPC133 157 P08AR
		4w, 5p	480	#4	033	11/ ₄ 11/ ₂	RPC233 014 S09AR ARE46 RPC233 014 S09AR ARE56	RPC133 157 P09AR
	Ungrounded	4w, 4p	600	#4	033	1 ¹ / ₄ 1 ¹ / ₂	RPC233 014 S05NR ARE46 RPC233 014 S05NR ARE56	RPC133 157 P05NR
						1 /2	NF0233 014 303NN ANE30	
		5w, 5p	480	#4	033	1 ¹ / ₄ 1 ¹ / ₂	RPC233 014 S06NR ARE46 RPC233 014 S06NR ARE56	RPC133 157 P06NR

For alternate polarizations, see page 1431, "Options" section.

RPC Circuit Breaking Power Connectors With Pressure Terminals





Cable Diameter Range	Cord Connector Cat. #*	Plug Cat. #*
.250 to .625	RPC321 160 S04AR	RPC121 150 P04AR
.625 to 1.000	RPC321 161 S04AR	RPC121 151 P04AR
.250 to .625	RPC321 160 S02NR	RPC121 150 P02NR
.625 to 1.000	RPC321 161 S02NR	RPC121 151 P02NR
.875 to 1.375	RPC333 163 S08AR	RPC133 153 P08AR
1.375 to 1.625	RPC333 396 S08AR	RPC133 388 P08AR
1.625 to 1.875	RPC333 397 S08AR	RPC133 389 P08AR
.875 to 1.375	RPC333 163 S09AR	RPC133 153 P09AR
1.375 to 1.625	RPC333 396 S09AR	RPC133 388 P09AR
1.625 to 1.875	RPC333 397 S09AR	RPC133 389 P09AR
.875 to 1.375	RPC333 163 S05NR	RPC133 153 P05NR
1.375 to 1.625	RPC333 396 S05NR	RPC133 388 P05NR
1.625 to 1.875	RPC333 397 S05NR	RPC133 389 P05NR
.875 to 1.375	RPC333 163 S06NR	RPC133 153 P06NR
1.375 to 1.625	RPC333 396 S06NR	RPC133 388 P06NR
1.625 to 1.875	RPC333 397 S06NR	RPC133 389 P06NR

For square flanged receptacle without dust cap, change the middle three digits of the catalog number from 014 to 127. Example: RPC221-127-S04AR-ARE23. ‡For square flanged receptacle with dust cap for panel mounting, delete the last digits of the catalog number specifying the backbox. Example: RPC221-014-S04AR. *For plugs and cord connectors:

To piugs and ocor connectors:
Liquiditight/Conduit Adapter –
To order with adapter, add letters "LT" to first section of catalog number. Example: RPCLT321-160-S04AR.
Additional Cable Strain Relief Options –
Stainless steel wire mesh grip – To order, add letter "K" to first section of catalog number. Example:

RPCK321-160-S04AR.

8

RPC Circuit Breaking Power Connectors With Pressure Terminals





	Circuit Description	Volts (VAC)	Contact Size	Shell Size	Hub Size (In.)	Square Flanged Receptacle, Dust Cap and Back Box Cat. # (For Surface Mounting)■‡	Motor Plug Cat. #
100 Amps Grounded	4w, 5p	600	1/0	041	1½ 2	RPC641 014 S04AR AJ57 RPC641 014 S04AR AJ67	RPC541 157 P04AR
Ungrounded	5w, 5p	600	1/0	041	1½ 2	RPC641 014 S02NR AJ57 RPC641 014 S02NR AJ67	RPC541 157 P02NR

For alternate polarizations, see page 1431, "Options" section.

RPC Circuit Breaking Power Connectors With Pressure Terminals



Cable Diameter Range	Cord Connector Cat. #*	Plug Cat. #*
1.375 to 1.875	RPC741 164 S04AR	RPC541 154 P04AR
1.875 to 2.062	RPC741 398 S04AR	RPC541 390 P04AR
2.062 to 2.250	RPC741 399 S04AR	RPC541 391 P04AR
1.375 to 1.875	RPC741 164 S02NR	RPC541 154 P02NR
1.875 to 2.062	RPC741 398 S02NR	RPC541 390 P02NR
2.062 to 2.250	RPC741 399 S02NR	RPC541 391 P02NR

For square flanged receptacle without dust cap, change the middle three digits of the catalog number from 014 to 127. Example: RPC221-127-S04AR-ARE23. ‡For square flanged receptacle with dust cap for panel mounting, delete the last digits of the catalog number specifying the backbox. Example: RPC221-014-S04AR.

*For plugs and cord connectors: Liquidtight/Conduit Adapter -

Liquidignt/Conduit Adapter –
To order with adapter, add letters "LT" to first section of catalog number. Example: RPCLT321-160-S04AR.
Additional Cable Strain Relief Options –
• Stainless steel wire mesh grip – To order, add letter "K" to first section of catalog number. Example: RPCK321-160-S04AR.

RPE Control Circuit and Power Connectors With Solder Well Terminals†





Circuit Description	Contact Size	Amps	Volts (VAC)	Shell Size	Hub Size (In.)	Square Flanged Receptacle, Dust Cap and Back Box Cat. # (For Surface Mounting)‡*	Motor Plug Cat. #
Control							
6w, 7p	#12	20	480	017	³/ ₄ 1	RPE217 014 S06A ARE23 RPE217 014 S06A ARE33	RPE117 157 P06A
7w, 7p	#12	20	480	017	³ / ₄ 1	RPE217 014 S05N ARE23 RPE217 014 S05N ARE33	RPE117 157 P05N
12w, 12p	#16	16	250	017	³ / ₄ 1	RPE217 014 S07N ARE23 RPE217 014 S07N ARE33	RPE117 157 P07N
18w, 19p	#12	20	250	021	³ / ₄	RPE221 014 S08A ARE23 RPE221 014 S08A ARE33	RPE121 157 P08A
19w, 19p	#12	20	250	021	³ / ₄ 1	RPE221 014 S09N ARE23 RPE221 014 S09N ARE33	RPE121 157 P09N
38w, 39p	#12	20	250	033	1 1/ ₄ 1 1/ ₂	RPE233 014 S19A ARE46 RPE233 014 S19A ARE56	RPE133 157 P19A
39w, 39p	#12	20	250	033	1 1/4 1 1/2	RPE233 014 S17N ARE46 RPE233 014 S17N ARE56	RPE133 157 P17N

RPE Control Circuit and Power Connectors With Solder Well Terminals



Cable Diameter Range	Cord Connector Cat. #§	Plug Cat. #§
.250 to .625	RPE317 160 S06A	RPE117 150 P06A
.625 to .875	RPE317 161 S06A	RPE117 151 P06A
.250 to .625	RPE317 160 S05N	RPE117 150 P05N
.625 to .875	RPE317 161 S05N	RPE117 151 P05N
.250 to .625	RPE317 160 S07N	RPE117 150 P07N
.625 to .875	RPE317 161 S07N	RPE117 151 P07N
.625 to 1.000	RPE321 161 S08A	RPE121 151 P08A
1.000 to 1.187	RPE321 395 S08A	RPE121 387 P08A
.625 to 1.000	RPE321 161 S09N	RPE121 151 P09N
1.000 to 1.187	RPE321 395 S09N	RPE121 387 P09N
.875 to 1.375	RPE333 163 S19A	RPE133 153 P19A
1.375 to 1.625	RPE333 396 S19A	RPE133 388 P19A
.875 to 1.375	RPE333 163 S17N	RPE133 153 P17N
1.375 to 1.625	RPE333 396 S17N	RPE133 388 P17N

†Solder well terminals provided as standard. Crimp contacts are optionally available, add suffix T to catalog number. Example: RPE633-014-S24NT-AJ57. ‡For square flanged receptacle without dust cap, change the middle three digits of the catalog number from 014 to 127. Example: RPE633-127-S24N-AJ57. *For square flanged receptacle with dust cap for panel mounting, delete the last three digits of the catalog number specifying the backbox. Example: RPE633-014-S24N. S24N. §For plugs and cord connectors:

Liquidtight/Conduit Adapter –
To order with adapter, add letters "LT" to the first section of the catalog number. Example: RPELT733-

section of the catalog number. Example: https://section.com/sections/sectio RPEK733-396-S24N.

Accessories



For #16 Through #10 Contacts:

The RPE017-440 crimping tool has been designed to crimp a wide range of solid and stranded type conductors. The crimping head is adjusted and sealed at the factory. The tool automatically crimps and gauges all size contacts without readjustment.



Contact Removal Tools:

The contact removal tool extracts the contact from the insert assembly without complete disassembly of the connector.

Cat #	Description
RPE017 402T	for use with #16 contacts.
RPE017 403T	for use with #12 contacts.
RPE017 404T	for use with #10 contacts.

Dust Caps: For Receptacles For RPC or RPE Series



Cat. #	Description
RPE017 009 RPE021 009 RPE033 009 RPE041 009	Dust Cap w/Eyelet for Receptacle

Back Boxes and Adapters

For Mounting RPC and RPE Square Flanged Receptacles



FS Back Box



ARE‡ Hub Size in.

1/2

3/4

1

11/4

AJ‡ Hub Size in.

11/4

11/2

11/2

2¹/₂

2

Hub	FS†	FSC†
Size in.	Cat. #	Cat. #
1/ ₂	FS1 SA	FSC1 SA
3/ ₄	FS2 SA	FSC2 SA
1	FS3 SA	FSC3 SA

Cat. #

ARE13

ARE23

ARE33

ARE36

ARE46

ARE56

Cat. #

AJ37

AJ47

AJ57

AJ67

AJ58 AJ68 AJ78 Rating

30A

60A

Rating

60A and

100A

200A



ARE Back Box



AJ Black Box



45° Angle adapter



Flat adapter

Adapters

Shell Sizes of Square Flanged Receptacles

45° Angle	-	Flat				
017 Cat. #	021 Cat. #	017 Cat. #	021 Cat. #			
RPE017 156	RPE021 156	RPE017 141	RPE021 142			

Shell Sizes of Square Flanged Recentacles

Shell Sizes of Square Flanged Neceptacies							
Flat							
017 Cat. #	021 Cat. #	033 Cat. #	041 Cat. #				
RPE017 143	RPE021 144						
		RPE033 145	RPE041 146				

Shell Sizes of Square Flanged Receptacles

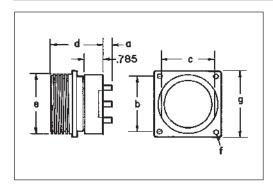
011011 01200 01 09	aaro i larigoa ricooptacico
Flat	
033 Cat. #	041 Cat. #
RPE033 145	RPE041 146
	RPE041 147

[†] Any of the FS or FD single gang, two gang tandem or multiple gang boxes with individual cover openings may be used with these adapters. For listings, dimensions and other details refer to Section 3F.

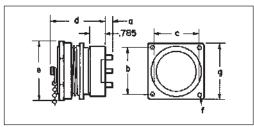
‡ Other AR and AJ back boxes may be used with these adapters. For listings, dimensions and other details refer to Section 1P.

8P ARK-trol® Electrical Connectors

RPC Circuit Breaking Power Connectors RPE Control Circuit and Power Connectors Dimensions (Inches)



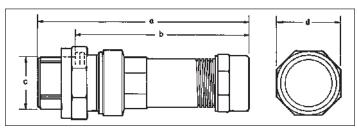
Square Flanged Receptacle							
Shell Typ and Size		С	d	е	f	g	
217	1.375	1.317	2.165	1.562	.190	1.750	
221	1.750	1.692	2.165	2.000	.190	2.250	
233	2.375	2.317	2.165	2.625	.214	2.875	
241	2.813	2.817	2.165	3.187	.250	3.438	
633	2.375	2.317	2.915	2.625	.214	2.875	
641	2.813	2.817	2.915	3.187	.250	3.438	
а	a Contact for AWG Wire						
0.1875	#16, #12,	#10		_			
0.250	#4						
0.375	1/0						
0.500	4/						



Square Flanged Receptacle with Dust Cap

Shell Type and Size	b	С	d	е	f	q
and Oize		•	u		•	9
217	1.375	1.317	2.812	1.927	.190	1.750
221	1.750	1.692	2.812	2.468	.190	2.250
233	2.375	2.317	2.812	3.145	.214	2.875
241	2.813	2.817	2.812	3.754	.250	3.438
633	2.375	2.317	3.552	3.145	.214	2.875
641	2.813	2.817	3.552	3.754	.250	3.438

Dimension a - same as above

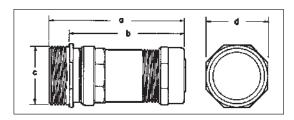


Plug Shell Type and Size	a†	b†	С	d
117	5.033	4.133	1.270	1.921
121	5.090	4.190	1.675	2.468
133	6.093	5.193	2.295	3.140
141	6.653	5.753	2.800	3.750
533	6.843	5.193	2.295	3.140
541	7.403	5.753	2.800	3.750

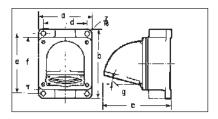
† These dimensions are approximate and vary with cable size.

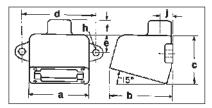
ARK-trol® Electrical Connectors

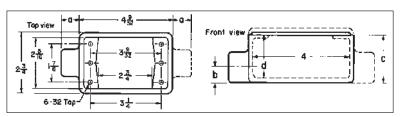
RPC Circuit Breaking Power Connectors RPE Control Circuit and Power Connectors Dimensions (Inches)



Square flanged receptacle Panel Gasket Panel Panel Dia."e"







Cord Connector Receptacle

Shell Type and Size	a†	b†	С	d
317	5.033	4.116	1.562	1.812
321	5.090	4.173	1.885	2.300
333	6.093	5.176	2.625	3.140
341	6.653	5.736	3.187	3.730
733	6.843	5.176	2.625	3.140
741	7.403	5.736	3.187	3.730

† These dimensions are approximate and vary with cable size.

Panel Mounting Methods

	Back Mounting			Front	ng	
Shell Size	а	d	е	b	d	е
017	1 19/32	1³/ ₈	3/16	1 17/32	13/8	3/16
021	21/32	1 ³ / ₄	3/16	1 31/32	1 ³ / ₄	3/16
033	$2^{21}/_{32}$	23/8	7/32	2 ²¹ / ₃₂	2 ³ / ₈	7/32
041	37/32	213/16	1/4	35/32	213/16	1/4

AJ Back Boxes

Form	Size	а	b	С	d	е	f	g
C and D	3/4, 1, 1 ¹ /4, 1 ¹ / ₂	57/8	8	77/16	47/8	7	57/8	15°
C and D	2	57/8	8	8	$4^{7}/_{8}$	7	57/8	15°
E	11/2, 2, 21/2	8	103/4	97/8	63/4	91/2	8	45°

ARE Back Boxes

Form	Size	а	b	С	d	е	f	h dia.
В	1/2	33/8	35/8	23/4	41/4	1	27/32	11/32
В	3/4	33/8	35/8	23/4	41/4	1	27/32	11/32
В	1	33/8	35/8	23/4	41/4	1	31/32	11/32
С	1	41/4	411/16	411/16	51/4	15/8	15/16	3/8
С	1 1/4	41/4	411/16	411/16	51/4	1 5/8	1	3/8
С	11/2	41/4	411/16	411/16	51/4	1 5/8	11/16	3/8

FS/FSC Boxes

Series	Hub Size	а	b	С	d
	1/2	7/8	5/8	17/8	1 11/16
FS	3/4	7/8	3/4	17/8	1 11/16
	1	1	7/8	1 ⁷ / ₈	1 11/16

ARK-trol® Electrical Connectors

RPX "Time Slot" Delayed Action Connectors Hazardous Locations

Cl. I, Div. 1 and 2, Group D* **Explosionproof** Raintight Dimensions see page 1454

Applications:

RPX "Time-Slot" delayed action connectors are used:

- In areas which are hazardous due to the presence of gasoline or gases or vapors of equivalent hazard (comparable to NEC Class I, Group D), where construction and test procedures are required to meet applicable sections of MIL-STD-810E
- For connection of devices ranging from simple lighting units, power tools and similar portables requiring only a power circuit to sophisticated control and instrumentation assemblies requiring disconnect

Features:

The same basic features, described in detail for RPC and RPE connectors, apply to RPX connectors as well and include the following:

- · High-strength impact extruded aluminum shell parts
 • "Tri-Disc" insert assemblies
- · Contacts snap in after termination
- Positive polarization
- · Interchangeability of inserts in each shell
- · Grounding contacts, where used, make
- first and break last
 The RPX "Time-Slot" delayed action feature prevents complete withdrawal of the plug in one continuous movement, eliminating the possibility of a circuitbreaking arc occurring in a hazardous area. Details of operation are shown in the illustrations below.



A. Turn plug clamping nut counterclockwise 45° to unlock plug.



B. Pull to disengage pin and socket contacts, breaking circuit while contacts are still inside the receptacle. Any resulting electrical arc is quenched within the receptacle sockets.

*RPX series are suitable for hazardous areas due to the presence of gasoline or other gases or vapors of equivalent hazard (comparable to N.E.C. Class I, Group D), where construction and test procedures are required to meet applicable sections of MIL-STD-810E. †For use on systems less than 60 hertz the receptacles, plugs and connectors are for disconnect use only.



C. Turn plug clamping nut an additional 45° counterclockwise to the release position, thereby effecting delayed action.



D. Disengage plug and receptacle.

Certifications and Compliances:

- RPX delayed action connectors have the same physical properties, characteristics and environmental capabilities of RPC and RPE connectors. For detailed information on these properties, refer to see page 1432.
- In addition to these properties, the "Time-Slot" delayed action feature permits disconnect under full rated load with no possibility of an exposed arc, thus meeting the stringent requirements of Military Specifications MIL-STD-810E

Standard Materials:

- Back boxes and adapters Feraloy® iron
- Plug, receptacle and cord connector shells - impact extruded aluminum
- Insulation diallyl phthalate (DAP)
- Sealing wafer silicone rubber
- Contacts hard drawn copper

Standard Finishes:

- Feraloy zinc electroplate and aluminum acrylic paint
- Impact extruded aluminum hard coat
- Diallyl phthalate natural (blue)
- Silicone rubber natural (grey)





Options:

The following options available for RPC and RPE connectors are also applicable to RPX connectors. For complete details see pages 1431-1432

- Alternate polarities ungrounded and grounded connectors
- Crimp type contacts
- · Wire mesh cord grip

Electrical Rating Ranges:

- 10, 20, 30 and 60 amperes
- 50† to 400 hertz
- 250, 480 and 600VAC
- · See listings for specific ratings

8P

Special Purpose†; ARK-trol® Electrical Connectors

RPX "Time-Slot" Delayed Action Connectors With Solder Well Terminals‡, Hazardous Areas* Cl. I, Div. 1 & 2, Group D* Explosionproof Raintight Dimensions see page 1454



POWER	Circuit Description	Contact Size	Amps	Volts (VAC)	Shell Size	Hub Size (In.)	Square Flanged Receptacle, Dust Cap and Back Box Cat. # (For Surface Mounting)§
20 amps Grounded	4w, 5p	#12	20	480	017	³ / ₄ 1	RPX217 914 S09A EDSC271 RPX217 914 S09A EDSC371
Ungrounded	5w, 5p	#12	20	480	017	³ / ₄ 1	RPX217 914 S08N EDSC271 RPX217 914 S08N EDSC371
30 amps Grounded	2w, 3p	#10	30	480	017	³ / ₄ 1	RPX217 914 S02A EDSC371
	3w, 4p	#10	30	480	017	³/₄ 1	RPX217 914 S04A EDSC271 RPX217 914 S04A EDSC371
	4w, 5p	#10	30	480	021	³ / ₄ 1	RPX221 914 S17A EDSC271 RPX221 914 S17A EDSC371
Ungrounded	3w, 3p	#10	30	480	017	³/₄ 1	RPX217 914 S01N EDSC271 RPX217 914 S01N EDSC371
	4w, 4p	#10	30	480	017	³ / ₄ 1	RPX217 914 S03N EDSC271 RPX217 914 S03N EDSC371
	5w, 5p	#10	30	480	021	³ / ₄	RPX221 914 S16N EDSC271 RPX221 914 S16N EDSC371

8P

Special Purposet; ARK-trol® Electrical Connectors

RPX "Time-Slot" Delayed Action Connectors With Solder Well Terminals, Hazardous Areas* Cl. I, Div. 1 & 2, Group D* Explosionproof Raintight Dimensions see page 1454



Cable Diameter Range	Cord Connector Cat. #■	Plug Cat. #■
.250 to .625	RPX317 160 S09A	RPX117 150 P09A
.625 to .875	RPX317 161 S09A	RPX117 151 P09A
.250 to .625	RPX317 160 S08N	RPX117 150 P08N
.625 to .875	RPX317 161 S08N	RPX117 151 P08N
.250 to .625	RPX317 160 S02A	RPX117 150 P02A
.625 to .875	RPX317 161 S02A	RPX117 151 P02A
.250 to .625	RPX317 160 S04A	RPX117 150 P04A
.625 to .875	RPX317 161 S04A	RPX117 151 P04A
.625 to 1.000	RPX321 161 S17A	RPX121 151 P17A
1.000 to 1.187	RPX321 395 S17A	RPX121 387 P17A
.250 to .625	RPX317 160 S01N	RPX117 150 P01N
.625 to .875	RPX317 161 S01N	RPX117 151 P01N
.250 to .625	RPX317 160 S03N	RPX117 150 P03N
.625 to .875	RPX317 161 S03N	RPX117 151 P03N
.625 to 1.000	RPX321 161 S16N	RPX121 151 P16N
1.000 to 1.187	RPX321 395 S16N	RPX121 387 P16N

† For alternate polarizations, see page 1431, "Options"

section.

‡ Solder well terminals provided as standard. Crimp contacts are optionally available, add suffix T to catalog number. Example: RPX217-914-S09AT-EDSC271. § For square flanged receptacle without dust cap, change the middle three digits of the catalog number from 914 to 913. Example: RPX217-913-S09A-EDSC271.

For plugs and cord connectors:

Liquidtight/Conduit Adapter –
To order with adapter, add letters "LT" to first section of catalog number. Example: RPXLT317-160-S09A. Additional Cable Strain Relief Options -

• Stainless steel wire mesh grip – To order, add letter "K" to first section of catalog number. Example: RPXK317-160-S09A.

*RPX series are suitable for hazardous areas due to the presence of gasoline or other gases or vapors of equivalent hazard (comparable to N.E.C. Class I, Group D), where construction and test procedures are required to meet applicable sections of MIL-E-5272C and MIL-E-4970A.

8P

Special Purpose†; ARK-trol® Electrical Connectors

RPX "Time-Slot" Delayed Action Connectors With Solder Well Terminals‡, Hazardous Areas*

Cl. I, Div. 1 & 2, Group D* Explosionproof Raintight Dimensions see page 1454



Square Flanged Receptacle,

POWER	Circuit Description	Contact Size	Amps	Volts (VAC)	Shell Size	Hub Size (In.)	Dust Cap and Back Box Cat. # (For Surface Mounting)§
60 Amps							
Grounded	3w, 4p	#4	60	600	033	11/4	RPX233 914 S08A CES42
	4w, 5p	#4	60	480	033	11/4	RPX233 914 S09A CES42
l lo ave vo de d	4w, 4p	#4	60	600	033	11/4	RPX233 914 S05N CES42
Ungrounded	5w, 5p	#4	60	480	033	11/4	RPX233 914 S06N CES42
CONTROL							
	6w, 7p	#12	20	480	017	3/ ₄ 1	RPX217 914 S06A EDSC271 RPX217 914 S06A EDSC371
	7w, 7p	#12	20	480	017	³/₄ 1	RPX217 914 S05N EDSC271 RPX217 914 S05N EDSC371
	18w, 19p	#12	20	250	021	³ / ₄	RPX221 914 S08A EDSC271 RPX221 914 S08A EDSC371
	19w, 19p	#12	20	250	021	³ / ₄	RPX221 914 S09N EDSC271 RPX221 914 S09N EDSC371
	38w, 39p	#12	20	250	033	11/4	RPX233 914 S19A CES42
	39w, 39p	#12	20	250	033	11/4	RPX233 914 S17N CES42

Special Purpose†; ARK-trol® **Electrical Connectors**

RPX "Time-Slot" Delayed Action Connectors With Solder Well Terminals, Hazardous Areas* Cl. I, Div. 1 & 2, Group D* Explosionproof Raintight Dimensions see page 1454



Cable Diameter Range	Cord Connector Cat. #■	Plug Cat. #■
.875 to 1.375	RPX333 163 S08A	RPX133 153 P08A
1.375 to 1.625	RPX333 396 S08A	RPX133 388 P08A
1.625 to 1.875	RPX333 397 S08A	RPX133 389 P08A
.875 to 1.375	RPX333 163 S09A	RPX133 153 P09A
1.375 to 1.625	RPX333 396 S09A	RPX133 388 P09A
1.625 to 1.875	RPX333 397 S09A	RPX133 389 P09A
.875 to 1.375	RPX333 163 S05N	RPX133 153 P05N
1.375 to 1.625	RPX333 396 S05N	RPX133 388 P05N
1.625 to 1.875	RPX333 397 S05N	RPX133 389 P05N
.875 to 1.375	RPX333 163 S06N	RPX133 153 P06N
1.375 to 1.625	RPX333 396 S06N	RPX133 388 P06N
1.625 to 1.875	RPX333 397 S06N	RPX133 389 P06N
.250 to .625	RPX317 160 S06A	RPX117 150 P06A
.625 to .875	RPX317 161 S06A	RPX117 151 P06A
.250 to .625	RPX317 160 S05N	RPX117 150 P05N
.625 to .875	RPX317 161 S05N	RPX117 151 P05N
.625 to 1.000	RPX321 161 S08A	RPX121 151 P08A
1.000 to 1.187	RPX321 395 S08A	RPX121 387 P08A
.625 to 1.000	RPX321 161 S09N	RPX121 151 P09N
1.000 to 1.187	RPX321 395 S09N	RPX121 387 P09N
.875 to 1.375	RPX333 163 S19A	RPX133 153 P19A
1.375 to 1.625	RPX333 396 S19A	RPX133 388 P19A
.875 to 1.375	RPX333 163 S17N	RPX133 153 P17N
1.375 to 1.625	RPX333 396 S17N	RPX133 388 P17N

[†] For alternate polarizations, see page 1431, "Options" section.

‡Solder well terminals provided as standard. Crimp contacts are optionally available, add suffix T to catalog number. Example: RPX217-914-S09AT-EDSC271. §For square flanged receptacle without dust cap, change the middle three digits of the catalog number from 914 to 913. Example: RPX217-913-S09A-EDSC271.

For plugs and cord connectors: Liquidtight/Conduit Adapter -

To order with adapter, add letters "LT" to first section of catalog number. Example: RPXLT317-160-S09A.

Additional Cable Strain Relief Options –
• Stainless steel wire mesh grip – To order, add letter "K" to first section of catalog number. Example: RPXK317-

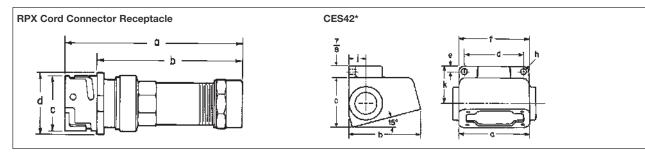
^{*}RPX series are suitable for hazardous areas due to the presence of gasoline or other gases or vapors of equivalent hazard (comparable to N.E.C. Class I, Group D), where construction and test procedures are required to meet applicable sections of MIL-E-5272C and MIL-E-4970A.

8P ARK-trol® Electrical Connectors

RPX "Time-Slot" Delayed Action Connectors

Dimensions

In Inches:

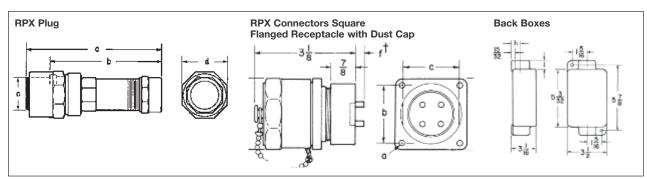


Cord Connector Receptacle

Shell Type				
and Size	a‡	b‡	С	d
317	5.033	4.116	1.560	1.812
321	5.090	4.173	2.000	2.300
333	6.093	5.176	2.625	3.140

CES42*

Size	а	b	С	d	е	f	dia.	j	k	
11/4	51/4	51/4	311/16	43/8	7/16	51/4	7/16	11/8	27/8	



RPX Plug Shell Type and Size	a‡	b‡	С	d
117	5.033	4.133	1.270	1.921
121	5.090	4.190	1.675	2.468
133	6.093	5.193	2.295	3.140

RPX Connectors Square Flanged Receptacle with Dust Cap Shell Type

and Size	а	b	С	d
217	.190	1.375	1.317	1.750
221	.190	1.750	1.692	2.250
233	.214	2.375	2.317	2.875

Back Boxes						
Cat. #	h	I				
EDSC271	7/8	13/16				
EDSC371	1	15/16				

[†]Dimension "f"; 0.1875 for #16, #12 and #10 contacts 0.250 for #4 contacts.

[‡]These dimensions are approximate and vary with cable size. *CES42 takes 60 ampere receptacle housings.

Description	Page No.
Portable Power Capabilities	see page 1456
Cable Assemblies	see pages 1457-1458
Portable GFCI Cable Assemblies	see page 1459
Posi-Max Power Distribution Panel	see pages 1460-1462
Power Carts	see pages 1463-1464

Portable Power Capabilities 9P

Total solutions from Eaton's Crouse-Hinds to meet the industry's ever-increasing need for safe and reliable temporary power

Virtually all industries today need equipment to provide temporary power, either in the event of an emergency or during standard operations such as maintenance in a factory. Eaton's Crouse-Hinds offers turn-key solutions as well as traditional out-of-the box products that effectively meet these needs.

Eaton's Crouse-Hinds Advantage:

- Custom turn-key capabilities allow customers to specify and order complete portable power carts and enclosures
- · Increase safety for temporary power needs by eliminating the opportunity of incorrect product being assembled together for temporary power and maintenance turnarounds which can result in injury to on-site personnel and contractors
- · Minimize time for maintenance work, plant turnaround planning, and preparation by having completely assembled, reliable and robust solutions provided directly to site
- · Dedicated staff with a focus on the oil and gas, military, disaster relief, and entertainment industries
- · Engineering support, including AutoCAD and design specifications
- UL approved assemblies, including suitability for Class I, Division 1 & 2 applications

Target Markets and Applications:

- · Petrochemical facilities (land and offshore)
- · Cellular towers and telecommunications
- Disaster relief
- Generator / power packs / power distribution center manufacturers
- Military bases / installations (defense contractors)
- Government agencies (Department of Homeland Security, etc.)
- Gas stations / convenience stores / pharmacies
- Shipyards (new construction and repair)
- Entertainment
- Food service / commissaries
- Manufacturing
- Surface mining
- Wind or solar power
- · Backfeeding buildings for super structures; hard-wired outlets fed from generators or power packs and carts; provision of power to engines, conveyor belts, welding equipment, ventilation fans; cable assemblies and wiring harnesses; construction applications; special customized applications for the provision of temporary power

Classifications and Available Electrical Standards:

- NEC Solutions NEC designs, components, and standards compliance
- IEC Solutions IEC designs, components, and standards compliance

Portable Power Solutions Offering:

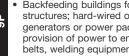
- Pre-assembled cable assemblies
- Power distribution receptacle panels
- Power carts and specialty products













The cable assembly incorporates a custom-made solution utilizing either Eaton's Crouse-Hinds branded connectors or any other connector on the market. These units are offered in jumper and tail configurations from 52A to 600A solutions. They can be customized to meet the needs of the customer with UL/cUL Listed devices and UL1581 standard cable. Canadian specific cable requirements are also available. Not only will you receive a complete turn-key solution of the best quality, you will also have the reputation of Eaton's Crouse-Hinds behind your product.

Applications:

Heavy Industrial Applications

- Mining
- · Hazardous locations
- · Facility maintenance
- · Military grade needs

Emergency Preparedness / Disaster Relief

- Hurricane regions
- Severe weather (ice storms / tornadoes)
- Data centers
- Cell towers
- Pharmacies
- Banks
- Retail
- Water treatment
- Utilities
- Gas stations
- Toll roads

Construction Applications

- Portable generators
- · Welding equipment
- Heavy tools



Features:

- Customizable assembly offers a turn-key solution, providing significant cost and time savings
- Offers a one-stop solution and eliminates contractors assembling on-site
- Color coded assemblies (available in black, yellow, red, orange, green, white, blue, and brown) provide easy mateability identification and ensure safety
- Temperature rated cable allows for reliable performance in demanding environments
- Resistant to oil, solvent, ozone, aging, and abrasion
- Flame retardant jacket
- Ranges from 52 amp 600 amp

Certifications and Compliances:

- UL/cUL Listed devices
- ATEX certified devices
- UL1581 standard cable
- Canadian specific cable requirements available
- MSHA
- · OSHA compliant

Ordering Information - Cable Assembly Configurator*

	Cable Assembly	Туре	Cable Size	Cable Type	Connector Series	Connector Color Configuration	Cable Length
	Assembly	турс	SIZC	Cable Type	Octios	Conniguration	Cable Leligili
Example:	С	1	20	W	16	Α	25
Options:	С	1 (Extension)	2 (#2)	SC (Type SC)	(1) 15 (E1015)	A (Black)	(2) 3M (3 Feet Male)
		2 (Pigtail)	20 (2/0)	W (Type W)	16 (EZ1016)	B (White)	(2) 3F (3 Feet Female)
			40 (4/0)	DLO (Type DLO)	(1) 17 (E1017)	C (Red)	(2) 5M (5 Feet Male)
					200 (E0200)	D (Blue)	(2) 5F (5 Feet Female)
					315 (E0315)	E (Green)	(2) 10M (10 Feet Male)
Notes:					400 (E0400)	F (Brown)	(2) 10F (10 Feet Female
(1) Denotes q	uotes available upo	on request				G (Orange)	(3) 25 (25 Feet)
(2) Pigtail only	,					H (Yellow)	(3) 50 (50 Feet)
		m lengths available u	pon request)				(3) 100 (100 Feet)

Connector Color Configuration Code:

16 Series Extension	200 Series Extension	315 Series Extension	400 Series Extension
Cable Connectors	Cable Connectors	Cable Connectors	Cable Connectors
A (EZ1016-8362/8387)	A (E0200-183/283)	A (E0315-183/283)	A (E0400-183/283)
B (EZ1016-8367/8392)	B (E0200-182/282)	B (E0315-182/282)	B (E0400-182/282)
C (EZ1016-8364/8389)	C (E0200-184/284)	C (E0315-184/284)	C (E0400-184/284)
D (EZ1016-8368/8393)	D (E0200-185/285)	D (E0315-185/285)	D (E0400-185/285)
E (EZ1016-8366/8391)	E (E0200-181/281)	E (E0315-181/281)	E (E0400-181/281)
F (EZ1016-8369/8394)	F (E0200-199/288)	F (E0315-196/296)	F (E0400-196/296)
G (EZ1016-8365/8390)	G (E0200-195/289)	G (EO315-195/295)	G (EO400-195/295)
H (EZ1016-8363/8388)	H (E0200-192/286)	H (E0315-192/292)	H (E0400-192/292)
16 Series Pigtail Female	200 Series Pigtail Female	315 Series Pigtail Female	400 Series Pigtail Female
A (EZ1016-8387)	A (E0200-283)	A (E0315-283)	A (E0400-283)
B (EZ1016-8392)	B (E0200-282)	B-E0315-282)	B-E0400-282)
C (EZ1016-8389)	C (E0200-284)	C (E0315-284)	C (E0400-284)
D (EZ1016-8393)	D (E0200-285)	D (E0315-285)	D (E0400-285)
E (EZ1016-8391)	E (E0200-281)	E (E0315-281)	E (E0400-281)
F (EZ1016-8394)	F (E0200-288)	F (E0315-296)	F (E0400-296)
G (EZ1016-8390)	G (E0200-289)	G (E0315-295)	G (E0400-295)
H (EZ1016-8388)	H (E0200-286)	H (E0315-292)	H (E0400-292)
16 Series Pigtail Male	200 Series Pigtail Male	315 Series Pigtail Male	400 Series Pigtail Male
A (EZ1016-8362)	A (E0200-183)	A (E0315-183)	A (E0400-183)
B (EZ1016-8367)	B (E0200-1820	B-E0315-182)	B-E0400-182)
C (EZ1016-8364)	C (E0200-184)	C (E0315-184)	C (E0400-184)
D (EZ1016-8368)	D (E0200-185)	D (E0315-185)	D (E0400-185)
E (EZ1016-8366)	E (E0200-181)	E (E0315-181)	E (E0400-181)
F (EZ1016-838369)	F (E0200-199)	F (E0315-196)	F (E0400-196)
G (EZ1016-8365)	G (E0200-195)	G (E0315-195)	G (E0400-195)
H (EZ1016-8363)	H (E0200-192)	H (E0315-192)	H (E0400-192)

*Eaton's Crouse-Hinds is able to manufacture multiple combinations of extension and feeder cable assemblies for both NEC and IEC applications. Cable assemblies can be custom designed using a large variety of product series, cable lengths, and cable types. Splitter or adapter combinations are also available (Arktite to Cam-Lok, Arktite to IEC, IEC to Mil-spec, Arktite to Mil-spec, etc.). Please consult factory for custom configurations.

Applications:

Portable GFCI Cable Assemblies allow for:

- Non-hazardous equipment connections with hazardous receptacles*
- Earth leakage protection when operating equipment such as drills, saws, grinders, and hand lamps

Typically used during plant turnarounds in installations such as:

- Refineries
- · Chemical plants
- LNG facilities

Features:

- Increased safety earth leakage protection provides assurance that personnel and equipment are protected from ground fault hazards when performing maintenance
- Increased reliability construction meets Eaton's Crouse-Hinds' superior quality standards
- Increased time savings turn-key solution eliminates need for hazardous plug installed on non-hazardous equipment
- Increased flexibility available with a variety of plug options to mate with a range of installed base of Eaton's Crouse-Hinds receptacles
- Consult factory for customizable options, including:
 - Cable Color (i.e. black)
 - Connector Type (i.e. twist lock)
 - Cable Length (i.e. 3 ft.)

Certifications and Compliances:

- GFCI Compliances:
 UL/cUL 943 Listed
- Plug Compliances:
 UL and CSA Listed Plug (consult Plug catalog pages for details)



Ordering Information:

Plug Style	Plug Pin Configuration	Plug Ratings	Ground Trip Current	Cord Length	Cord Gauge	Cat. #
ENP5201	NEMA 5-20	20 Amp 125 Volt	4-6 mA	2'	12/3 AWG	ENP5201 GFI
ENP5151	NEMA 5-20	15 Amp 125 Volt	4-6 mA	2'	12/3 AWG	ENP5151 GFI
CPP516	UL1686 2W3P	20 Amp 125 Volt	4-6 mA	2'	12/3 AWG	CPP516 GFI
CPP516	UL1686 2W3P	20 Amp 240 Volt	4-6 mA	2'	12/3 AWG	CPP516 GFI 240V

Portable GFCI Cable Assemblies mate with a variety of our industry-leading receptacle solutions:



ENR Receptacle see page 1350



ENC Connector see pages 1355–1356



ENR-GFCI Kit see pages 1357-1358



CPS Receptacle see pages 1344–1346

*For use only in non-hazardous atmospheres (i.e. plant turnarounds).

9P

Posi-Max Series Power Distribution Panel

Customized solutions for providing temporary power.

No other manufacturer has the unique ability to deliver customized portable power solutions quickly and safely in the event of a power outage.

Eaton's Crouse-Hinds Posi-Max is a power distribution panel that provides a quick and safe method of connection to portable generators. The unique Posi-Max design allows for quick and safe restoration of essential power services.

The Posi-Max Series is available in 200A to 1200A and the enclosure can be customized to meet specific environmental and configuration needs. The heart of the system is the field-proven Posi-Lok® power distribution system designed to meet Articles 520.53(K) and 530.22(A) of the NEC®. The sequential port interlock requires the user to connect and disconnect each plug in the proper sequence ensuring ground connection. This single pole system allows for easy connection in any situation.

Applications:

The Posi-Max Series is used to back feed buildings for quick power restoration in the event of an outage. It is an ideal solution for safe and reliable power restoration for:

- Banks
- Cell Towers
- Data Centers
- Gas Stations
- Pharmacies
- Retail StoresStadiums, Sports Arenas
- Toll Roads
- Utilities
- Water Treatment Facilities

Features and Benefits:

- 200A 1200A service
- · Color coded polarity for ease of use
- Quick access cable entry door
- · Lockout capability for safety and security
- Available with E1016 Cam-Lok® connection for enhanced safety and sequential interlocked capability
- Available with manual transfer switches
- · Quick restoration of essential services
- · Limit switch options available



Posi-Max panel in cold rolled steel with epoxy powder paint

Component Certifications and Compliances:

- NEMA 3R, 4*, 4X*, 12
- Enclosure UL and cUL Listed
- Posi-Lok panel UL and CSA Listed
- Posi-Lok and Cam-Lok connector UL and CSA Listed
- Article compliance: 520.53(K) and 530.22(A) of the NEC

Materials and Finishes:

• Enclosure:

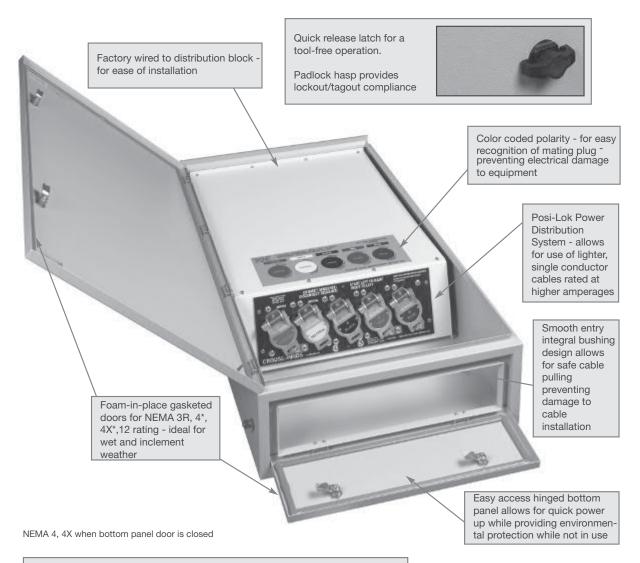
Cold rolled steel - epoxy powder paint Stainless steel - natural

- Hardware stainless steel
- Gasket neoprene

^{*}NEMA 4, 4X when bottom panel door is closed.

Posi-Max Series Power Distribution Panel

Posi-Max Features:



Sequential port interlock connections require the user to connect or disconnect each plug in sequence for increased (built-in) safety



Custom Capabilities

We can design the Posi-Max unit to meet your exact specifications for color, material, and finish.

All the design choices are yours!

9P **Posi-Max Series Power Distribution Panel**

Ordering Information:

	Posi Max Type	Connection Type	Amp	Panel Posi / Cam-Lok Color Configuration	Enclosure Type	Limit Switch Options	Disconnect Options (PM3 only)
Example:	PM1	EO	400	1687	N3RPS	LS5	СВ
Options:	PM1 (Wired to distribution block)	EO (Posi Lok)	200	1685 (Female GR, WH, BK)	N1PS (NEMA 1 Painted Steel)	LS1 (1st Position)	CB† (Circuit breaker)
	PM2 (Direct wire; no distribution block)	CO (Cam Lok)	315	1686NN (Female Non Neutral GR, BK, RD, BU)	N3RPS (NEMA 3R Painted Steel)	LS2 (2nd Position)	FDS‡ (Fused disconnect switch)
	PM3 (With disconnect options)		400	1696 (Female GR, WH, BK, RD)	N3RSS (NEMA 3R Stainless Steel)	LS3 (3rd Position)	NFDS (Non-fused disconnect switch)
			600	1687 (Female GR, WH, BK, RD, BU)		LS4 (4th Position)	CBMTS† (Circuit breaker manual transfer switch)
			800	1702* / 1890 (Female GR, WH, BR, ORG, YEL)		LS5 (5th Position)	FMTS‡ (Fused manual transfer switch)
			1200	1885 (Female GR, WH, WH, BK, RD, BU)		LS6 (6th Position)	NFMTS (Non-fused manual transfer switch)
				1660 (Male GR, WH, BK)		LSAII (All Positions)	NFMTS (Non-fused manual transfer switch)
				1661NN (Male Non Neutral GR, BK, RD, BU)			
				1672 (Male GR, WH, BK, RD)			
				1662 (Male GR, WH, BK, RD, BU)			
				1703** / 1891 (Male GR, WH, BR, ORG, YEL)			
				1860 (Male GR, WH, WH, BK, RD, BU)			

Note: *1702 panel configuration for 315 AMP to 1200 AMP; 1890 panel configuration for 200 AMP. **1703 panel configuration for 315 AMP to 1200 AMP; 1891 panel configuration for 200 AMP. Voltage and AIC rating required. ‡Voltage required.

Panel Posi / Cam Lok Configuration Code:
- BK: Black
- BR: Brown
- BU: Blue

- BU: Blue GR: Green ORG: Orange RD: Red WH: White YEL: Yellow

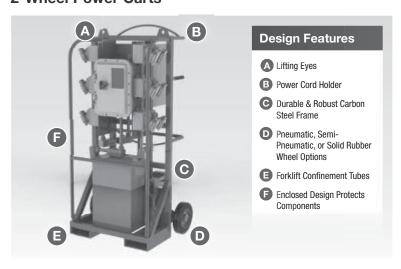
Hazardous and Non-hazardous

Solutions designed for industrial and hazardous applications

Plant turnarounds can be complex, chaotic, and costly events. During your next shutdown, turn to Eaton's Crouse-Hinds for safe, reliable electrical power equipment that ensures efficient and successful operations.

- UL1640 compliant
- 2-wheel, 4-wheel, and skid options
- · Standardized cart sizes reduce lead times and eliminate potential on-site placement issues
- · Hazardous area power carts eliminate need for time-consuming area declassification and equipment monitoring

2-Wheel Power Carts



Technical Specifications

Hazardous			Industrial Non-Hazardous				
Specifications			Specifica	ations			
Primary Voltage: 240 – 600V Max Secondary Current: 225A Max Primary Current: 100A Max Secondary Current w/ Main: 100A Max Secondary Voltage: 240V			Primary Voltage: 240 – 600V Max Secondary Current: 225A Max Primary Current: 100A Max Secondary Current w/ Main: 225A Max Secondary Voltage: 480V				
Compatible Compor	nents		Compatible Components				
Receptacles	Transformers	Panelboards	Receptad	cles	Transformers	s Panelboards	
ENR	7.5 kVA	EJB 12 circuit	CPS	AR	7.5 kVA	18 circuit	
CPS	9 kVA		ENR	WSQC	9 kVA	30 circuit	
CES	10 kVA	Disconnects	CES	WLRS	10 kVA		
FSQC	15 kVA	EIB	FSQC	WLRD	15 kVA	Disconnects	
	25 kVA		Water tig		25 kVA	30A, 60A, 100A	

Cart/Skid Sizes

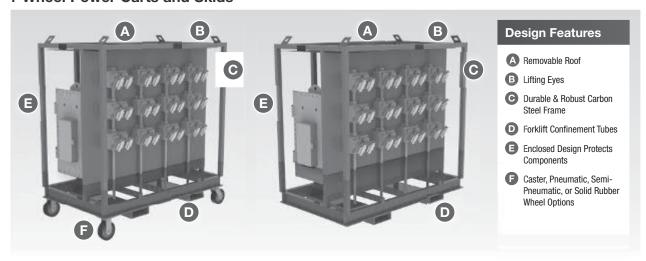


Crouse-Hinds

9P Power Carts

Hazardous and Non-hazardous

4-Wheel Power Carts and Skids



Technical Specifications

Hazardous				Industrial Non-Hazardous				
Specifications			Specific	cations				
Max Primary Current: 100A Max Secondary Current w/ Main: 100A			Primary Voltage: 240 – 600V Max Secondary Current: 225A Max Primary Current: 200A Max Secondary Current w/ Main: 225/Max Secondary Voltage: 480V					
Compatible Components			Compatible Components					
Receptacles	Transformers	Panelboards	Recepta	acles	Transforn	ners	Panelboards	
CPS	30 kVA	EPLBN 24 circuit	CPS	AR	25 kVA	45 kVA	18 circuit	
ENR	45 kVA	EXDBN 24 circuit	ENR	WSQC	30 kVA	50 kVA	30 circuit	
CES			CES	WLRS	37.5 kVA	75 kVA	42 circuit	
FSQC		Disconnects	FSQC	WLRD				
CESD		EIB					Disconnects	
							30A, 60A, 100A, 200A	

Cart/Skid Sizes



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Plugs and Receptacles Drilling Connectivity Solutions Hazardous and Non-hazardous

Description	Page No
PowerMate™ Series	
Technical Data	see page 1466
Plugs, Receptacles, and Connectors	
30A	see page 1470
60A	see page 1471
100A	see page 1472
150A	see page 1473
Product Dimensions	see page 1475
Replacement Parts and Accessories	see page 1476
PowerGard™ Series	see page 1477
Boughneck Series	see nage 1480

10P

PowerMate™ Series Plugs, Receptacles, and Connectors

Industrial Heavy Duty Non-hazardous Areas

PowerMate[™] Drilling Rig Power Connections

The PowerMate[™] offering is designed to support modularity of drilling rig systems by providing safe and reliable power connections for rigging up and rigging down equipment quickly and efficiently.

This offering is the ideal rig power connection solution providing:

- · Longer product life
- Reduced maintenance
- Enhanced safety
- Easy installation

The PowerMate product offering is also compatible with all UL1686 Listed plugs and recepacles, including:

- Eaton's Crouse-Hinds Arktite®
- Appleton Powertite®
- Killark VersaMate®

Applications:

PowerMate Plugs, Receptacles, and Connectors are used:

- On SCR/VFD houses to provide power to rig equipment such as shakers, agitators, lighting circuits, mud pumps, motors, etc.
- To quickly and efficiently connect power during rig ups and disconnect power during rig downs

Specifiable Features:

- · Lockout plug (patented)
- Safety insulator (patent pending)
- Diamond clamp (patent pending)
- · Split pin contacts
- Type P cable

Certifications and Compliances:

- UL Standards: UL1682, UL1686, NEMA 250
- CSA Standard: C22.2 No. 182.1
- Listed for use with Type P cable, flexible cord, and cables rated for extra hard usage
- CE (LVD) 2006/95/EEC
- NEMA 4X

Standard Materials:

- Receptacle housing, plug, and cord connector bodies high impact strength copper-free aluminum (less than 0.4% copper)
- Back boxes cast aluminum
- Insulation fiberglass-reinforced polyester
- Contacts naval brass

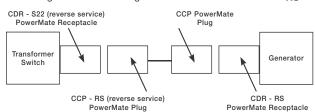
Standard Finishes:

- Copper-free aluminum epoxy powder coat
- Fiberglass-reinforced polyester natural (red)
- Naval brass natural



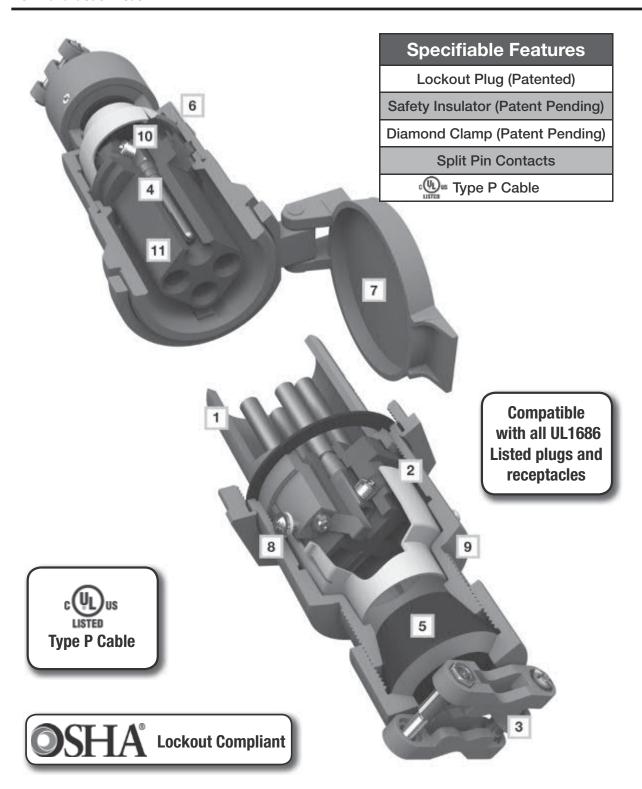
Options:

Description Suffix



PowerMate™ Series Plugs, Receptacles, and Connectors

Industrial Heavy Duty Non-hazardous Areas



10P

PowerMate™ Series Plugs, Receptacles, and Connectors

Industrial Heavy Duty Non-hazardous Areas

1	Lockout Plug (Patented) Guarantees isolated power supply with OSHA compliant lockout/tagout. Ensures plug cannot be inserted into receptacle when maintenance is being performed downstream of power supply.	
2	Fixed Safety Insulator (Patent Pending) Prevents electrical shock and shorts with plastic barrier between insulator body and metal housing. Fixed-in-place design ensures insulator will not be lost or discarded during cable termination process.	
3	Point Diamond Cable Clamps (Patent Pending) Note that the second secon	000
4	Split Pin Contact Design Provides nearly 360° of contact at every insertion, ensuring protection against heat rise and eliminating arcing on critical surfaces. Self-wiping at every insertion to remove foreign particles that create electrical resistance and product failure.	
5	Extended Cable Range Industry's largest cable diameter range. Specifically designed, third party tested and certified for use with Type P cable. Sealing system utilizes industry standard bushings.	
6	Enhanced Nomenclature and Nameplate Easily understandable nomenclature increases ease of part configuration identification. Mechanically attached nameplate ensures that critical information is permanently fixed to product.	
7	Spring and Threaded Cover Each receptacle comes with both spring cap and threaded cap to provide a variety of cover options.	
8	Combination Drive Stainless Steel Hardware Increases ease of installation by allowing for more than one option for installation tools. Stainless steel external hardware eliminates corrosion on critical components and extends product life.	
9	Handle Body Thick epoxy powder coating is standard finish on PowerMate products. Coating reduces corrosion and increases life of product. Industry standard profile increases ease of plugging and unplugging.	6
10	Combination Slot and Hex Mechanical Lugs* Increases ease of installation by allowing for more than one option for installation tools. Hex head allows for easy achievement of specified torque value.	
11	Insulator Assemblies Unimpeded, easy-access phase and ground terminals make wire termination quick and easy. Molded-in-place markings for phase/ground and conductor strip lengths reduce installation errors.*	8

*60, 100, and 150A offering.

PowerMate™ Series Plugs, Receptacles, and Connectors

Industrial Heavy Duty Non-hazardous Areas

Electrical Ratings:

Voltage - 600 VAC, 50 to 400 Hz; 250 VDC*

Amperes - 30, 60, 100, 150

Maximum Horsepower for Plug and Receptacle Combinations by Input Voltage**

The following values are typical horsepower ratings based on NEC Article 430 tables. Horsepower ratings are based on the largest conductor size for each plug and receptacle combination per the Wire Size table below.

Ampere Rating	M	Motor Horsepower**					
Plug and Receptacle	240 Volts	480 Volts	600 Volts				
30	15	30	40				
60	20	40	50				
100	30	60	75				
150	40	75	100				
200	60	125	150				

^{*}This guide is for reference only. Consult your local electrical codes before installation

Wire Sizes:

The table below lists the diameter of the wire recess in PowerMate plug and receptacle contacts so that maximum size of bare conductor can be determined. Range of wire sizes shown in table are intended only as a guide. Depending on type of wire used (building wire, flexible, or extra flexible cable) and its construction (number and size of strands), bare copper diameters vary widely.

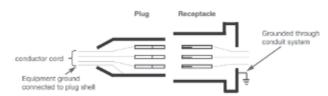
Diameter of Wire Recess in Plug and Receptacle Contacts

	•	•	
Amperage Rating	Contact Type	Diameter of Recess	Wire Size† Extra Flex
30 (2-, 3-, and 4-pole)	Pressure	0.281"	#10-#8
60 (2-, 3-, and 4-pole)	Pressure	0.312"	#8-#4
100 (2-, 3-, and 4-pole)	Pressure	0.390"	#4-#2
150 (4-pole)	Pressure	0.390"	#2-1/0

†Do not use wire size smaller than minimum size recommended.

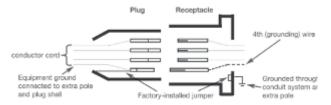
Grounding: Style 1 vs. Style 2

Style 1



Style 1 units complete the grounding circuit through the metallic plug shell, receptacle housing, or connector shell.

Style 2



Style 2 metallic units with metal housing have a separate designated ground contact that is bonded to the metallic housing. The metallic housing of the plug, receptacle, or connector forms a parallel ground circuit through the receptacle or connector detent spring.

^{**}Eaton's Crouse-Hinds recommends circuit breaking use be limited to emergency conditions only and that a horsepower rated switch or Eaton's Crouse-Hinds interlocked receptacle be used for making and breaking under load.

10P

PowerMate™ Series Plugs, Receptacles, and Connectors

30 A, 600 VAC/250 VDC, 50⁺ - 400 hertz







Ordering Information:

			Plug		Cord Connector	
Description and Configura	ation	Receptacle	Cable Range	Cat. #	Cable Range	Cat. #
2-wire, 2-pole, Style 1	Ø GR	CDR3022	0.390-1.375"	CCP3022BC	0.390-1.375"	CRC3022BC
2-wire, 3-pole, Style 2	Ø GR	CDR3023	0.390-1.375"	CCP3023BC	0.390-1.375"	CRC3023BC
3-wire, 3-pole, Style 1	Ø GR	CDR3033	0.390-1.375"	CCP3033BC	0.390-1.375"	CRC3033BC
4-pole,	Ø Ø GR	CDR3034	0.390-1.375"	CCP3034BC	0.390-1.375"	CRC3034BC
4-wire, 4-pole, Style 1	Ø Ø Ø	CDR3044	0.390-1.375"	CCP3044BC	0.390-1.375"	CRC3044BC

Back Boxes (for Receptacles):

Hub Size	CEE	CERH	CERC
1/2" 3/4"	CEE13 CEE23	CERH13 CERH23	CERC13 CERC23
1"	CEE33	CERH33	CERC33

The back boxes are standard with Corro-free™ epoxy powder coat finish for increased corrosion resistance.

For optional reversed interior, use suffix RS see page 1466

For optional rotated interior, use suffix P4 see page 1466

For dimensions, see page 1475

Maximum conductor size (wire well) 0.281" see page 1469

For replacement parts, see page 1476

†For use on systems less than 60 hertz, the receptacles, plugs, and connectors are for disconnect use only.

PowerMate™ Series Plugs, Receptacles, and Connectors

60 A, 600 VAC/250 VDC, 50† - 400 hertz



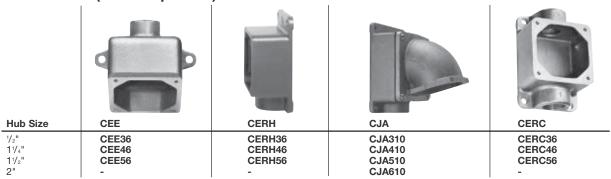




Ordering Information:

			Plug		Cord Connector	
Description and Cor	nfiguration	Receptacle	Cable Range	Cat. #	Cable Range	Cat. #
2-wire, 2-pole, Style 1	Ø GR	CDR6022	0.440-1.375"	CCP6022BC	0.440-1.375"	CRC6022BC
2-wire, 3-pole, Style 2	Ø GR	CDR6023	0.440-1.375"	CCP6023BC	0.440-1.375"	CRC6023BC
3-wire, 3-pole, Style 1	Ø GR	CDR6033	0.440-1.375"	CCP6033BC	0.440-1.375"	CRC6033BC
3-wire, 4-pole, Style 2	Ø Ø GR	CDR6034	0.440-1.375"	CCP6034BC	0.440-1.375"	CRC6034BC
4-wire, 4-pole, Style 1	GR Ø	CDR6044	0.440-1.375"	CCP6044BC	0.440-1.375"	CRC6044BC

Back Boxes (for Receptacles):



The back boxes are standard with Corro-free™ epoxy powder coat finish for increased corrosion resistance.

For optional reversed interior, use suffix RS see page 1466

For optional rotated interior, use suffix P4 see page 1466

For dimensions, see page 1475

Maximum conductor size (wire well) 0.312" see page 1469

For replacement parts, see page 1476

†For use on systems less than 60 hertz, the receptacles, plugs, and connectors are for disconnect use only.

PowerMate™ Series Plugs, 10P **Receptacles, and Connectors**

100 A, 600 VAC/250 VDC, 50⁺ - 400 hertz







Ordering Information:

			Plug		Cord Connector	
Description and Config	guration	Receptacle	Cable Range	Cat. #	Cable Range	Cat. #
2-wire, 2-pole, Style 1	Ø GR	CDR1022	0.875-1.906"	CCP1022CD	0.875-1.906"	CRC1022CD
2-wire, 3-pole, Style 2	Ø GR	CDR1023	0.875-1.906"	CCP1023CD	0.875-1.906"	CRC1023CD
3-wire, 3-pole, Style 1	Ø GR	CDR1033	0.875-1.906"	CCP1033CD	0.875-1.906"	CRC1033CD
3-wire, 4-pole, Style 2	Ø Ø GR	CDR1034	0.875-1.906"	CCP1034CD	0.875-1.906"	CRC1034CD
4-wire, 4-pole, Style 1	R O	CDR1044	0.875-1.906"	CCP1044CD	0.875-1.906"	CRC1044CD

Back Boxes (for Receptacles):



Hub Size	CJA	CJA Adapter Only
1/2"	CJA310	
11/4"	CJA410	0.14400
11/2"	CJA510	CJA100
2"	CJA610	

The back boxes are standard with Corro-free™ epoxy powder coat finish for increased corrosion resistance.

For optional reversed interior, use suffix RS see page 1466

For optional rotated interior, use suffix P4 see page 1466

For dimensions, see page 1475

Maximum conductor size (wire well) 0.390" see page 1469

For replacement parts, see page 1476

 \dagger For use on systems less than 60 hertz, the receptacles, plugs, and connectors are for disconnect use only.

150 A, 600 VAC/250 VDC, 50† - 400 hertz







Ordering Information:

				Plug	Cord (Connector
Description	n and Configuration	Receptacle	Cable Range	Cat. #	Cable Range	Cat. #
3-wire,	(O O)	00045004	0.875-1.906"	CCP15034CD	0.875-1.906"	CRC15034CD
4-pole, Style 2	Ø Ø GR	CDR15034	1.250-2.190"	CCP15034DE	1.250-2.190"	CRC15034DE
4-wire,	ole, $(\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc)$ CDR15044	0.875-1.906"	CCP15044CD	0.875-1.906"	CRC15044CD	
4-pole, Style 1		CDN 13044	1.250-2.190"	CCP15044DE	1.250-2.190"	CRC15044DE

Back Boxes (for Receptacles):



Hub Size	CJA	CJA Adapter Only		
1/2"	CJA310			
11/4"	CJA410	CJA100		
11/2"	CJA510	CJA100		
2"	CJA610			

The back boxes are standard with Corro-free™ epoxy powder coat finish for increased corrosion resistance.

For optional reversed interior, use suffix RS see page 1466

For optional rotated interior, use suffix P4 see page 1466

For dimensions, see page 1475

Maximum conductor size (wire well) 0.390" see page 1469

For replacement parts, see page 1476

†For use on systems less than 60 hertz, the receptacles, plugs, and connectors are for disconnect use only.

10P

PowerMate™ Series Plugs, Receptacles, and Connectors

200 A, 600 VAC/250 VDC, 50[†] - 400 hertz 400 A, 600 VAC/250 VDC, 50† - 400 hertz

Ordering Information:

200A and 400A options available as part of our Eaton's Crouse-Hinds Arktite® Series

Ampe	rage and Configuration	Receptacle	Plug	Cord Connector
200A	2 Wire, 3 Pole, Style 2 3 Wire, 3 Pole, Style 1 3 Wire, 4 Pole, Style 2 4 Wire, 4 Pole, Style 1			
400A	2 Wire, 3 Pole, Style 2 3 Wire, 3 Pole, Style 1 3 Wire, 4 Pole, Style 2 4 Wire, 4 Pole, Style 1			

For detailed part numbers and technical information, see pages 1324–1325

Back Boxes (for Receptacles):



Hub Size	CJA	CJA Adapter Only
1/2"	CJA310	
11/4"	CJA410	CJA100
11/2"	CJA510	CJA100
2"	CJA610	

The back boxes are standard with Corro-free™ epoxy powder coat finish for increased corrosion resistance.

For optional reversed interior, use suffix RS see page 1466

For optional rotated interior, use suffix P4 see page 1466

For dimensions, see page 1475

Maximum conductor size (wire well) 0.390" see page 1469

For replacement parts, see page 1476

†For use on systems less than 60 hertz, the receptacles, plugs, and connectors are for disconnect use only.

PowerMate™ Series Plugs, Receptacles, and Connectors

Industrial Heavy Duty Non-hazardous Areas

Dimensions - Receptacle, Plug, Cord Connector: CCP Plugt CDR Receptacle **CRC Cord Connector† Amps** 30A 27/8" 33/8" 61/2" 25/16" 63/5" 29/16" 60A 3P 41/411 41/211 81/6" 35/8" 83/10" 25/16" 2⁵/₁₆" 3³/₁₆" 41/2" 60A 4P 41/4" 81/6" 33/4" 83/10" 100A 3P 51/4" 41/4" 104/5" 33/4" 111/2" 4¹/₈" 4¹/₈" 4¹/₈" 3⁷/₁₆" 3⁷/₁₆" 3⁷/₁₆" 100A 4P 41/4" 51/4" 104/5" 111/2" 51/4" 41/4" 111/2" 150A (CD) 104/5" 51/4" 104/5" 41/4" 150A (DE)

†Dimensions are approximate and vary with cable size.

Dimensions - CEE Back Boxes:

Cat. #	Rating	Size	а	b	30A	60A
CEE13	30A	1/2"	127/32"	11/16"		
CEE23	30A	3/4"	1 27/32"	¹³ / ₁₆ "	├4 - 12 -	
CEE33	30A	1"	1 ³¹ / ₃₂ "	15/ ₁₆ "		
CEE36	60A	1"	29/16"	15/16"		
CEE46	60A	11/4"	25/8"	13/16"	371	
CEE56	60A	11/2"	211/16"	15/16"		

Dimensions - CJA Back Boxes: With 60, 100, and 150A Angle Adapters

Cat. #	Hub Size	а	b	С	d	е	f	
CJA310	1"	57/8"	8"	77/16"	47/8"	7"	15°	0 d 1 / d
CJA410	11/4"	57/8"	8"	77/16"	47/8"	7"	15°	
CJA510	11/2"	57/8"	8"	77/16"	47/8"	7"	15°	
CJA610	2"	57/8"	8"	8"	47/8"	7"	15°	

Back boxes are standard with Corro-free™ epoxy powder coat finish for increased corrosion resistance. Thru-feed back boxes are furnished with one close-up plug in bottom recessed hub. CJA back boxes are recommended when additional wiring space is required. The angle adapter on CJA back boxes can be installed at 90° rotations, making it possible to enter hub from several directions.

PowerMate[™] Series Plugs, Receptacles, and Connectors 10P

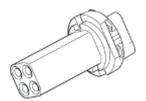
Industrial Heavy Duty Non-hazardous Areas

Replacement Parts: Standard Replacement Parts Replacement Interiors 30, 60, 100, 150A

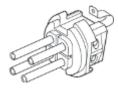
Complete Insulator and Contact Assembly		30A	60A	100A	150A
2W2P	CDR-CRC CCP	CRI-3022 CPI-3022	CRI-6022 CPI-6022	CRI-1022 CPI-1022	-
2W3P	CDR-CRC CCP	CRI-3023 CPI-3023	CRI-6023 CPI-6023	CRI-1023 CPI-1023	-
3W3P	CDR-CRC CCP	CRI-3033 CPI-3033	CRI-6033 CPI-6033	CRI-1033 CPI-1033	-
3W4P	CDR-CRC CCP	CRI-3034 CPI-3034	CRI-6034 CPI-6034	CRI-1034 CPI-1034	CRI-15034 CPI-15034
4W4P	CDR-CRC	CRI-3044	CRI-6044	CRI-1044	CRI-15044

Miscellaneous Replacement Parts

Amperage Center	Configuration Center	CDR Spring Cover	CDR Threaded Cover	CCP Fastening Ring	Bushing Kits Center
30A	2-pole, 3-pole, 4-pole	PTSC30	PTTC30	CLMPR30	PTGB30
60A	2-pole, 3-pole 4-pole	PTSC60A PTSC60B	PTTC60A PTTC60B	CLMPR23P60 CLMPR4P60	PTGB60
100A	2-pole, 3-pole 4-pole	PTSC100A PTSC100B	PTTC100A PTTC100B	CLMPR23P100 CLMPR4P100	PTGBCD
150A	4-pole	PTSC150B	PTTC150B	CLMPR4P150	PTGBCD (CD Size) PTGBCD (DE Size)



CRI Receptacle and Connector Interior



CPI Plug Interior



Spring Cover



Threaded Cover









Bushing Kit

PowerGard™ Series Universal Receptacles and Back Boxes

CI. I, Groups B, C, D CI. II, Groups F, G CI. III NEMA 3, 3R, 3RX Explosionproof
Dust-ignitionproof
Raintight
Wet Locations

Whether you are powering lighting fixtures or portable equipment, you need a receptacle solution that stands up to the harsh environmental and physical demands of land-based drilling applications.

PowerGard™ Receptacles and Back Boxes meet and exceed your power needs with an easy install, universal footprint suitable for rig maintenance, retrofits, and new builds.

Applications:

PowerGard Receptacles are used:

 To supply power to lighting systems and lighting panels on landbased drilling rigs

Features:

- Classified for use with Appleton® U-Line Series
- Easy-to-wire saddle clamp terminals reduce installation time and effort
- Molded-in-place phase/ground markings reduce installation errors
- Can handle temperature extremes ranging from -50°C to +55°C where comparable products are not certified to operate
- Epoxy powder coat finish, integral gasket design, and stainless steel hardware for NEMA 3RX applications
- Vibration tested at 1G to ensure continuity in high vibration areas
- Rugged Krydon® faceplate stands up to abuse in the field without cracking
- Positive on/off position identifies when unit has been engaged and disengaged
- Clearly marked operating instructions to eliminate risk of improper operation

Certifications and Compliances:

• NEC/CEC:

Class I, Groups B, C, D Class II, Groups F, G

Class III

• UL Standard:

UL1203 Explosionproof and Dust-ignitionproof Electrical Equipment for Use in Hazardous (Classified) Locations

CSA Standard:

CSA 30 Explosionproof Enclosures for Use in Class I Hazardous Locations



Environmental Ratings:

• NEMA 3, 3R, 3RX

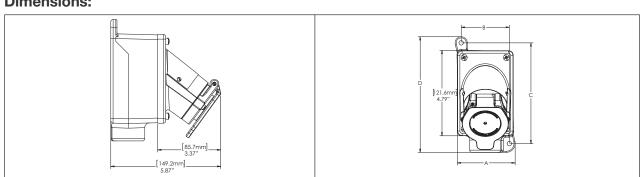
Electrical Ratings:

- 15 Amp, 125 VAC
- 20 Amp, 125 VAC
- 20 Amp, 250 VAC

Standard Materials:

- Housing, covers, and back boxes copper-free aluminum with Corro-free™ epoxy powder coat
- Insulator and faceplate Krydon® fiberglass-reinforced polyester material
- External hardware stainless steel

Dimensions:



Box Style	Α	В	С	D	
Single Gang	3.24" (82.3)	2.70" (68.6)	5.65" (143.5)	6.48" (164.7)	
Double Gang	6.38" (162.2)	5.50" (139.7)	5.69" (144.4)	6.55" (166.5)	

PowerGard™ Series Universal Receptacles and Back Boxes

CI. I, Groups B, C, D CI. II, Groups F, G CI. III NEMA 3, 3R, 3RX Explosionproof Dust-ignitionproof Raintight Wet Locations

Features and Benefits:

Universal Footprint

- Provides field flexibility for retrofits or installation in tight places
- UL classified for use with Appleton® U-Line Series

Superior Hardware

- Stainless steel external hardware eliminates corrosion on critical components and extends product life
- Hex head screws allow for easy achievement of specified torque values

Enhanced Safety

- Rejects standard NEMA/EEMAC plug configurations that could potentially cause an arc in hazardous areas
- Plug cannot be disengaged under load

Robust Construction

- Can handle temperature extremes ranging from -50°C to +55°C where comparable products are not certified to operate
- Epoxy powder coat finish, integral gasket, and stainless steel hardware ensure suitability for NEMA 3RX applications
- Vibration tested at 1G to ensure continuity in high vibration areas



Safe Spring Faceplate

- Spring loaded faceplate design prevents receptacle from being energized without use of UL certified hazardous location plug
- Rugged Krydon® faceplate won't crack after continued use in the field

Easy Install Terminals

- Molded-in-place phase and ground markings reduce installation errors
- Easy-to-wire saddle clamp terminals reduce installation time and effort

Best-in-class Cover

- Combo head, stainless steel screws make replacement easy
- Clearly marked operating instructions ensure proper operation and safety when plugging and unplugging
- Threaded cover option available for exceptional watertight integrity





Ordering Information - Receptacle and Mounting Box:

	Туре	Configuration	Wire Pole	Hub Size	20 Amp 125 VAC Cat. #	20 Amp 250 VAC Cat. #	15 Amp 125 VAC Cat. #
	Single Gang Assembly	Dead-end	2W, 3P	1/2 3/ ₄ 1	CFS150-2023 CFS175-2023 CFS110-2023	CFS150-20232 CFS175-20232 CFS110-20232	CFS150-1523 CFS175-1523 CFS110-1523
		Thru-feed	2W, 3P	1/2 3/ ₄ 1	CFSC150-2023 CFSC175-2023 CFSC110-2023	CFSC150-20232 CFSC175-20232 CFSC110-20232	CFSC150-1523 CFSC175-1523 CFSC110-1523
	Double - Gang Assembly	Dead-end	2W, 3P	1/2 3/ ₄ 1	CFS250-2023 CFS275-2023 CFS210-2023	CFS250-20232 CFS275-20232 CFS210-20232	CFS250-1523 CFS275-1523 CFS210-1523
		Thru-feed	2W, 3P	1/ ₂ 3/ ₄ 1	CFSC250-2023 CFSC275-2023 CFSC210-2023	CFSC250-20232 CFSC275-20232 CFSC210-20232	CFSC250-1523 CFSC275-1523 CFSC210-1523

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10P

PowerGard™ Series Universal Receptacles and Back Boxes

CI. I, Groups B, C, D CI. II, Groups F, G CI. III NEMA 3, 3R, 3RX Explosionproof
Dust-ignitionproof
Raintight
Wet Locations

Ordering Information - Replacement Receptacle:



2W, 3P	CFSR-2023	CFSR-20232	CFSR-1523
Pole	Cat. #	Cat. #	Cat. #
Wire	125 VAC	250 VAC	125 VAC
	ZU AIIIP	ZU AIIIP	13 Allip

Ordering Information - Ark•Gard® ENP Plug:

Wire

Pole

(ALTERNATION)	

20 Amp 125 VAC Cat. # 20 Amp 250 VAC Cat. # 15 Amp 125 VAC Cat. #

15 Amn

2W, 3P

ENP5201

ENP6202

ENP5151

Ordering Information - Single Gang Back Box:

	Type	Configuration	Hub Size	Cat. #
	Single	Dead-end	1/ ₂ 3/ ₄ 1	CFD150 CFD175 CFD110
	Gang	Thru-feed	1/ ₂ 3/ ₄ 1	CFDC150 CFDC175 CFDC110

Ordering Information - Double Gang Back Box:

	Type	Configuration	Hub Size	Cat. #
			1/2	CFD250
The state of the s		Dead-end	3/4	CFD275
12	Double		1	CFD210
	Gang		1/2	CFDC250
-		Thru-feed	3/4	CFDC275
			1	CFDC210

Ordering Information - Replacement Parts:

	100	9	16.	
10	4		,	
- 1	-	-	V.	نصر
	-	-	576 6	

Spring Cover Replacement

Туре

PGSCA

Cat. #



Threaded Cover Replacement

PGTCA

Back Box Hex Bolt Replacement

PG SCREW PACK

PG SCREW PACK SLOT

Roughneck High Amperage Connectors are rugged and weatherproof and provide a high level of indestructibility. They are built to take heavy abuse (resistant to wind, rain, mud, oil, and sea water), yet can be quickly connected and disconnected without any tools.

Specially designed to handle a variety of drilling applications, they can be quickly and safely connected to the switchgear, AC or DC sides of the SCR package, and carry power to mud pumps and traction motors

The latching device locks the halves together, eliminating the possibility of accidental disengagement, which can cause disruption of service and electrical shock hazards. The latching device is designed to permit insertion of a lockout/tagout device to provide additional security or the ability to padlock.

Roughneck Plugs and Receptacles feature totally shielded contacts. The rubber insulator extends past the ends of both male and female contacts for complete safety. Male contacts are equipped with an insulated tip to minimize potential shock hazard. Roughneck products provide the safest high amperage connector in the industry.

Ten colors are available to provide easy circuit identification when mating plugs with receptacles. Color coding helps prevent reverse phasing on AC circuits or cross polarization on DC circuits to assure correct rotation of motors while providing for operator safety.

Applications:

- Roughneck Plugs and Receptacles are built to take heavy abuse while providing a simple, secure, and safe connection
- Roughneck products are designed specifically for oil and gas drilling applications

Features:



Electrical Ratings:

- 1000 Volts, Max. AC/DC
- 1135 amps continuous (1300 amps intermittent)

Temperature Ratings:

• -40°C to 125°C

Certifications and Compliances:

• cURus: E73864

Environmental Ratings:

• NEMA 3

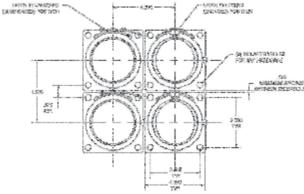
Standard Materials:

- Cable sizes 313-777 MCM
- Insulator rubber
- · Receptacle shell epoxy powder coated aluminum alloy
- Hardware stainless steel
- · Contact copper

Ampacity Rating - 40°C Ambient

Cable Size	90°C†	125°C†
313 MCM	513 amps	636 amps
444 MCM	642 amps	796 amps
535 MCM	724 amps	898 amps
646 MCM	814 amps	1009 amps
777 MCM	916 amps	1135 amps

†Conductor temperature shall not exceed these ratings



Receptacle housing mounting pattern (rotating latch) (0.125" minimum spacing required between receptacles)

Cable Size 313 MCM 1000V AC/DC, Up to 636A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- · Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:



Hexagon Crimp or Solder for 313 MCM

Type of Connection

and Wire Size

Color	Complete Male Connector Cat. #	Insulator Only Cat. #	
Black	E1049-31	A201106-1	_
Yellow	E1049-32	A201106-2	
Red	E1049-33	A201106-3	-
Orange	E1049-34	A201106-4	-
Green	E1049-35	A201106-5	-
White	E1049-36	A201106-6	-
Blue	E1049-37	A201106-7	
Brown	E1049-38	A201106-8	-
Purple	E1049-39	A201106-20	
Gray	E1049-40	A201106-21	-

A201107-4

Contact Only

Cat. #

E1049-34

Ordering Information - Female Plugs:

Туре	of Connection	
and	Wire Size	

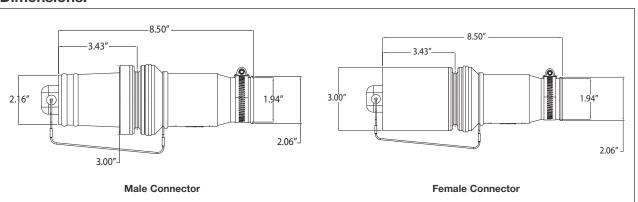
Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-80	A201100-1	
Yellow	E1049-81	A201100-2	
Red	E1049-82	A201100-3	
Orange	E1049-83	A201100-4	
Green	E1049-84	A201100-5	
White	E1049-85	A201100-6	A201103-4
Blue	E1049-86	A201100-7	
Brown	E1049-87	A201100-8	
Purple	E1049-88	A201100-25	
Gray	E1049-89	A201100-26	 -



313 MCM

E1049-82

Dimensions:



Crouse-Hinds by **F**:**T·N**

10P Roughneck E1049 Series Male & Female Plugs

Cable Size 444 MCM 1000V AC/DC, Up to 796A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

cl IRus: F73864

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:

Type of Connection and Wire Size

444 MCM



Complete Male Insulator Only Color Connector Cat. # Cat. # Black E1049-201 A201106-1 E1049-202 A201106-2 Yellow A201106-3 Red E1049-203 E1049-204 A201106-4 Orange E1049-205 A201106-5 Green White E1049-206 A201106-6 Blue E1049-207 A201106-7 Brown E1049-208 A201106-8 E1049-209 A201106-20 Purple E1049-210 A201106-21 Gray

E1049-210

Ordering Information - Female Plugs:

Type of Connection and Wire Size

Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-250	A201100-1	
Yellow	E1049-251	A201100-2	
Red	E1049-252	A201100-3	
Orange	E1049-253	A201100-4	
Green	E1049-254	A201100-5	— — A201103-8
White	E1049-255	A201100-6	— A201103-6
Blue	E1049-256	A201100-7	
Brown	E1049-257	A201100-8	
Purple	E1049-258	A201100-25	
Grav	E1049-259	A201100-26	



Hexagon Crimp or Solder for 444 MCM

E1049-256

Dimensions: 2.16" Male Connector Semale Connector

Contact Only

A201107-8

Cat. #

Contact Only

A201107-1

Cat. #

Cable Size 535 MCM 1000V AC/DC, Up to 898A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- · Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

cURus: E7386

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:

Type of Connection and Wire Size

Complete Male Insulator Only Color Connector Cat. # Cat. # E1049-1 Black A201106-1 E1049-2 A201106-2 Yellow E1049-3 A201106-3 Red E1049-4 A201106-4 Orange E1049-5 A201106-5 Green White E1049-6 A201106-6 E1049-7 A201106-7 Blue E1049-8 A201106-8 Brown E1049-9 A201106-20 Purple A201106-21 E1049-10 Gray



Hexagon Crimp or Solder for **535 MCM**

E1049-10

Ordering Information - Female Plugs:

Type of Connection and Wire Size

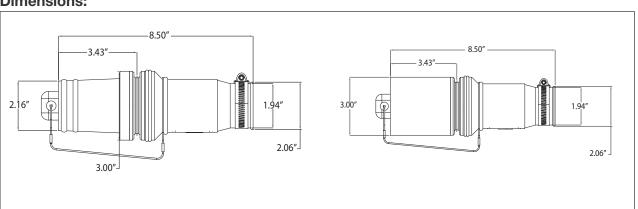
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Hexagon Crimp or Solder for **535 MCM**

Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-50	A201100-1	
Yellow	E1049-51	A201100-2	
Red	E1049-52	A201100-3	
Orange	E1049-53	A201100-4	
Green	E1049-54	A201100-5	— — A201103-1
White	E1049-55	A201100-6	— A201103-1
Blue	E1049-56	A201100-7	
Brown	E1049-57	A201100-8	
Purple	E1049-58	A201100-25	
Gray	E1049-59	A201100-26	

E1049-58

Dimensions:



10P Roughneck E1049 Series Male & Female Plugs

Cable Size 646 MCM 1000V AC/DC, Up to 1009A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- · Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

• cURus: E73864

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:

6	A
W	1

Hexagon Crimp or Solder for 646 MCM

Type of Connection and Wire Size

Color	Complete Male Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-11	A201106-1	
Yellow	E1049-12	A201106-2	
Red	E1049-13	A201106-3	
Orange	E1049-14	A201106-4	
Green	E1049-15	A201106-5	— A201107-2
White	E1049-16	A201106-6	— A201107-2
Blue	E1049-17	A201106-7	_
Brown	E1049-18	A201106-8	
Purple	E1049-19	A201106-20	
Gray	E1049-20	A201106-21	

E1049-14

Ordering Information - Female Plugs:

Type of Connection and Wire Size	Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #



Hexagon Crimp or Solder for 646 MCM

Color	Connector Cat. #	Cat. #	Cat. #
Black	E1049-60	A201100-1	
Yellow	E1049-61	A201100-2	
Red	E1049-62	A201100-3	
Orange	E1049-63	A201100-4	
Green	E1049-64	A201100-5	A201103-2
White	E1049-65	A201100-6	A201103-2
Blue	E1049-66	A201100-7	
Brown	E1049-67	A201100-8	
Purple	E1049-68	A201100-25	
Grav	F1049-69	A201100-26	

E1049-64

Dimensions: 8.50" 8.50" -3.43"-3.43" 3.00" 2.16" 2.06" -2.06"-3.00"-**Male Connector Female Connector**

Roughneck E1049 Series Male & Female Plugs

Cable Size 777 MCM 1000V AC/DC, Up to 1135A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

• cURus: E73864

NEMA 3

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:

Hexagon Crimp or Solder for 777 MCM

Type of Connection and Wire Size

Color	Complete Male Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-21	A201106-1	
Yellow	E1049-22	A201106-2	_
Red	E1049-23	A201106-3	
Orange	E1049-24	A201106-4	
Green	E1049-25	A201106-5	
White	E1049-26	A201106-6	— A201107-3
Blue	E1049-27	A201106-7	
Brown	E1049-28	A201106-8	
Purple	E1049-29	A201106-20	
Gray	E1049-30	A201106-21	

E1049-29

Ordering Information - Female Plugs:

Type of Connection and Wire Size

	Blac
	Yello
	Red
	Oran
Hexagon Crimp or Solder for	Gree
777 MCM	Whit
	Blue
	Brov

Color

Yellow	E1049-71
Red	E1049-72
Orange	E1049-73
Green	E1049-74
White	E1049-75
Dluc	E1040 76

E1049-70

E1040 71

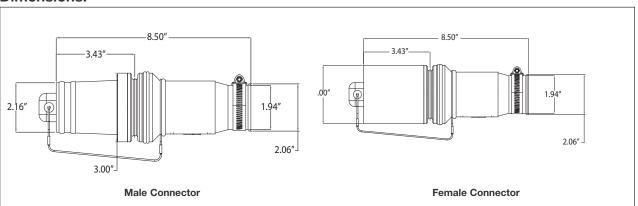
Blue	E1049-76	A201100-7
Brown	E1049-77	A201100-8
Purple	E1049-78	A201100-25
Grav	E1049-79	A201100-26

Complete Female

Connector Cat. #

E1049-76

Dimensions:



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Contact Only

A201103-3

Cat. #

Insulator Only

Cat. #

A201100-1

A201100-2 A201100-3 A201100-4

A201100-5

A201100-6

Roughneck E1049 Series 10P **Receptacles**

Cable Size 313-777 MCM 1000V AC/DC, 1135A

Roughneck Receptacles Single and Double Hole Bus Bar - Rotating Latch **Features:**

- Color-coded receptacle housings are designed to provide easy circuit identification
- Epoxy powder shell coating provides superior corrosion resistance
- Receptacle housing allows bus bar positioning at vertical, horizontal, and 45° to ease cable routing
- Receptacle assembly provides 360° mounting capabilities
- Ten standard colors available
- Locking device is lockout compatible
- · Dust cover is secured to the receptacle housing
- · Stainless steel hardware
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

• cURus: E73864

Material Characteristics:

- Receptacle body: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Female Bus Bar:

Female Double Hole Bus Bar				Female Single Hole Bus Bar			
	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	Color	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #
	E1049-1833X-BK	3326695-1	A201108-9	Black	E1049-1825X-BK	3326695-1	A201108-1
	E1049-1834X-Y	3326695-2	A201108-10	Yellow	E1049-1826X-Y	3326695-2	A201108-2
	E1049-1835X-R	3326695-3	A201108-11	Red	E1049-1827X-R	3326695-3	A201108-3
	E1049-1836X-OR	3326695-4	A201108-12	Orange	E1049-1828X-OR	3326695-4	A201108-4
١	E1049-1837X-G	3326695-5	A201108-13	Green	E1049-1829X-G	3326695-5	A201108-5
	E1049-1838X-W	3326695-6	A201108-14	White	E1049-1830X-W	3326695-6	A201108-6
	E1049-1839X-BL	3326695-7	A201108-15	Blue	E1049-1831X-BL	3326695-7	A201108-7
	E1049-1840X-BR	3326695-8	A201108-16	Brown	E1049-1832X-BR	3326695-8	A201108-8
	E1049-1822X-PR	3326695-9	A201108-19	Purple	E1049-1820X-PR	3326695-9	A201108-17
	F1049-1823X-GY	3326695-10	Δ201108-20	Grav	F1049-1821X-GY	3326695-10	A201108-18



Ordering Information - Male Bus Bar:

Male Double Hole Bus Bar			_	Male Single Hole Bus Bar			
Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	Color	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	
E1049-1808X-BK	3326695-1	A201099-9	Black	E1049-1800X-BK	3326695-1	A201099-1	
E1049-1809X-Y	3326695-2	A201099-10	Yellow	E1049-1801X-Y	3326695-2	A201099-2	
E1049-1810X-R	3326695-3	A201099-11	Red	E1049-1802X-R	3326695-3	A201099-3	
E1049-1811X-OR	3326695-4	A201099-12	Orange	E1049-1803X-OR	3326695-4	A201099-4	
E1049-1812X-G	3326695-5	A201099-13	Green	E1049-1804X-G	3326695-5	A201099-5	
E1049-1813X-W	3326695-6	A201099-14	White	E1049-1805X-W	3326695-6	A201099-6	
E1049-1814X-BL	3326695-7	A201099-15	Blue	E1049-1806X-BL	3326695-7	A201099-7	
E1049-1815X-BR	3326695-8	A201099-16	Brown	E1049-1807X-BR	3326695-8	A201099-8	
E1049-1818X-PR	3326695-9	A201099-19	Purple	E1049-1816X-PR	3326695-9	A201099-17	
E1049-1819X-GY	3326695-10	A201099-20	Gray	E1049-1817X-GY	3326695-10	A201099-18	



E1049-1808X-BK

Receptacle assembly part numbers include the insulator, receptacle housing, gasket, and dust cover.

Dust cover receptacle male or female catalog number: A201113-5.

Cable Size 313-777 MCM 1000V AC/DC, 1135A

Roughneck Receptacles Single and Double Hole Bus Bar - Short Throw Latch Features: Testing and Code Compliance:

- Color-coded receptacle housings are designed to provide easy circuit identification
- Epoxy powder shell coating provides superior corrosion resistance
- Receptacle housing allows bus bar positioning at vertical, horizontal, and 45° to ease cable routing
- Receptacle assembly provides 360° mounting capabilities
- Ten standard colors available
- Locking device is lockout compatible
- Dust cover can be secured to the receptacle housing
- Stainless steel hardware
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

cURus: E73864

Material Characteristics:

- Receptacle body: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Female Bus Bar:

	Female	Double Hole Bus	s Bar		Female Single Hole Bus Bar			
	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	Color	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	
	E1049-1833ST-BK	3326695-1ST	A201108-9	Black	E1049-1825ST-BK	3326695-1ST	A201108-1	
	E1049-1834ST-Y	3326695-2ST	A201108-10	Yellow	E1049-1826ST-Y	3326695-2ST	A201108-2	
	E1049-1835ST-R	3326695-3ST	A201108-11	Red	E1049-1827ST-R	3326695-3ST	A201108-3	
1	E1049-1836ST-OR	3326695-4ST	A201108-12	Orange	E1049-1828ST-OR	3326695-4ST	A201108-4	
	E1049-1837ST-G	3326695-5ST	A201108-13	Green	E1049-1829ST-G	3326695-5ST	A201108-5	
-	E1049-1838ST-W	3326695-6ST	A201108-14	White	E1049-1830ST-W	3326695-6ST	A201108-6	
	E1049-1839ST-BL	3326695-7ST	A201108-15	Blue	E1049-1831ST-BL	3326695-7ST	A201108-7	
	E1049-1840ST-BR	3326695-8ST	A201108-16	Brown	E1049-1832ST-BR	3326695-8ST	A201108-8	
	E1049-1822ST-PR	3326695-9ST	A201108-19	Purple	E1049-1820ST-PR	3326695-9ST	A201108-17	
	E1049-1823ST-GY	3326695-10ST	A201108-20	Gray	E1049-1821ST-GY	3326695-10ST	A201108-18	



Ordering Information - Male Bus Bar:

•9•								
	Male D	ouble Hole Bus	Bar		Male Single Hole Bus Bar			
	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	Color	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	
	E1049-1808ST-BK	3326695-1ST	A201099-9	Black	E1049-1800ST-BK	3326695-1ST	A201099-1	
	E1049-1809ST-Y	3326695-2ST	A201099-10	Yellow	E1049-1801ST-Y	3326695-2ST	A201099-2	
	E1049-1810ST-R	3326695-3ST	A201099-11	Red	E1049-1802ST-R	3326695-3ST	A201099-3	
	E1049-1811ST-OR	3326695-4ST	A201099-12	Orange	E1049-1803ST-OR	3326695-4ST	A201099-4	
	E1049-1812ST-G	3326695-5ST	A201099-13	Green	E1049-1804ST-G	3326695-5ST	A201099-5	
	E1049-1813ST-W	3326695-6ST	A201099-14	White	E1049-1805ST-W	3326695-6ST	A201099-6	
	E1049-1814ST-BL	3326695-7ST	A201099-15	Blue	E1049-1806ST-BL	3326695-7ST	A201099-7	
	E1049-1815ST-BR	3326695-8ST	A201099-16	Brown	E1049-1807ST-BR	3326695-8ST	A201099-8	
	E1049-1818ST-PR	3326695-9ST	A201099-19	Purple	E1049-1816ST-PR	3326695-9ST	A201099-17	
	E1049-1819ST-GY	3326695-10ST	A201099-20	Gray	E1049-1817ST-GY	3326695-10ST	A201099-18	

E1049-1814ST-BL

Receptacle assembly part numbers include the insulator, receptacle housing, gasket, and dust cover.

Dust cover receptacle male or female catalog number: A201113-1.

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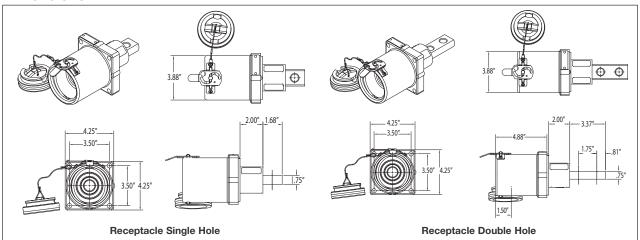
Roughneck E1049 Series Receptacles

Cable Size 313-777 MCM 1000V AC/DC, 1135A

Accessories:

Description	Cat. #
Receptacle Repair Kit - Short Throw	K3326821
Clevis Pin for Coupler	A101058-2
Adhesive, 8 oz. Can	100312-2
Receptacle Dust Cover - Short Throw	A201113-1
Dust Cover for Male Plug, Black	A201113-2
Dust Cover for Female Plug, Black	A201114-2
Gasket for Receptacle Housing	201115
Lockout Kit for Padlocking Receptacle	A201120-1
Coupler for Mating Male to Female Plug	A201096-1
Receptacle Dust Cover - Rotating Latch	A201113-5
Neoprene Vulcanizing Tape	319735-1

Dimensions:



Plugs and Receptacles Industrial Connectivity Non-hazardous

Description	Page No.
Cam-Lok™ Series	see page 1490
Posi-Lok [™] Series	see page 1540
Roughneck Series	see page 1553
Quik-Loc™ Series	see pages 1574-1577
Metallic Quik-Loc [™] Series	see pages 1578-1581
LynxPOWER™ Passive Series	see pages 1582-1588
LynxPOWER™ Network Series	see pages 1600-1609

11P Cam-Lok™ Single Pole Connectors

Product Selector Guide

Selecting the correct Cam-Lok[™] product series is easy Just identify the cable size, voltage, amperage, and approval requirements.

"F" Series

Series	Ampacity Rating (Max.)	Voltage Rating (Max.)	Cable Sizes	Approvals
E1010	200	120	#8 - #4	OSHA
E1012	315	120	#2 - 4 / 0	OSHA
"J" Series				
Series	Ampacity Rating (Max.)	Voltage Rating (Max.)	Cable Sizes	Approvals
E1015	150	600	#8 - #4	UL/CSA
E1016 / EZ1016	400	600	#2 - 4 / 0	UL/CSA
E1017	690	600	250-800 MCM	UL/CSA
E1018 / EZ1018	400	600	#2 - 4 / 0	CSA

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Cam-Lok™ F Series Connectors are specifically designed to meet the needs of harsh industrial welding applications. F Series Plugs and Receptacles offer superior reliability and safety while reducing downtime.

Applications:

- F Series Plugs and Receptacles are specifically designed for industrial applications where electrical equipment is exposed to harsh environments
- Ideal for welding equipment, power distribution panels, patch panels, and heat tracing applications, and are insulated for safety with reinforced thermoplastic or epoxy, or watertight elastomeric

Certifications and Compliances:

- Meets OSHA requirements for welding connectors
- Meets NEC® Code requirements for listed connectors that are of the locking type

Chemical-resistant,

material

reinforced thermoplastic

Environmental Rating:

NEMA 3

Standard Materials:

- Accepts cable sizes: #8 AWG 4 / 0
- Insulator reinforced thermoplastic (E1010, E1012); reinforced epoxy (E1012 high temperature); elastomeric (E1012 only)
- Contact brass or silver-plated brass

Electrical Ratings:

- 120 Volts AC
- Up to 315 Amps continuous, 550 Amps intermittent

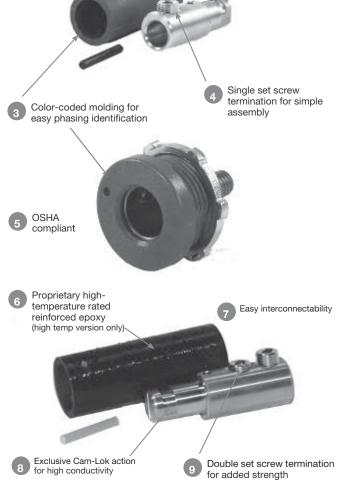
Temperature Ratings:

superior mating

- Standard: up to 105°C
- High temperature: up to 180°C (365°F)

Double-cam contact for

Features:



11P Cam-Lok™ F Series E1010 Plugs and Receptacles

Cable Size #8 - #4 AWG 120VAC Up to 150A Continuous, 200A Intermittent

F Series E1010, Reinforced Thermoplastic

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- γ_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Thermoplastic insulators molded from colorfast material, colorcoded for easy identification
- Panel receptacles are safety insulated for direct mounting to steel panels
- · Accepts a wide range of cable sizes

Testing and Code Compliance:

OSHA compliant

Material Characteristics:

- Insulator reinforced thermoplastic
- Temperature rating: -40°C to 105°C

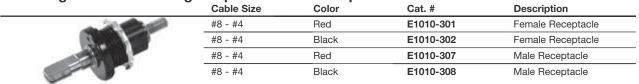
Ordering Information - Plugs:

			Male	Plugs			Female Plug	gs
		Cable Size	Color	Complete Cat. #	Insulator Cat. #	Complete Cat. #	Insulator Cat. #	Retaining Pin Cat. #
	Set	#8 - #4	Red	E1010-61	201281-410RM	E1010-71	201281-410RF	100091-2
120	Screw	#8 - #4	Black	E1010-62	201281-410BM	E1010-72	201281-410BF	100091-2
	Coldor	#8 - #4	Red	E1010-101	201281-410RM	E1010-111	201281-410RF	100091-2
	Solder	#8 - #4	Black	E1010-102	201281-410BM	E1010-112	201281-410BF	100091-2
E1010-61								

Ordering Information - Female Terminal Connectors:

Cable Size	Color	Angle Style Cat. #	Offset Style Cat. #
#8 - #4	Red	E1010-181	E1010-201
#8 - #4	Black	E1010-182	E1010-202
Bolt hole: 5/16"			

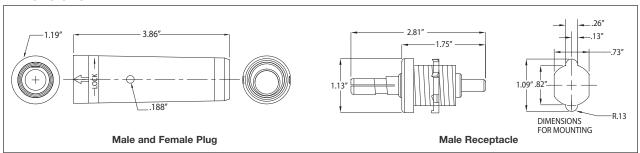
Ordering Information - High Impact Plastic Receptacles:



E1010-308

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Crouse-Hinds

Set Screw Female Plugs

Solder Female Plugs

F Series E1012, Reinforced Thermoplastic

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Thermoplastic insulators molded from colorfast material, colorcoded for easy identification
- Accepts a wide range of cable sizes

Testing and Code Compliance:

OSHA compliant

Set Screw Male Plugs

Solder Male Plugs

Material Characteristics:

- Insulator reinforced thermoplastic
- Temperature rating: -40°C to 105°C

Ordering Information - Set Screw Plugs:



	Cable Size	Color	Complete Cat. #	Insulator Cat. #	Complete Cat. #	Insulator Cat. #	Retaining Pin Cat. #
	#2 - 1 / 0	Red	E1012-61	201281-612RM	N/A	N/A	100091-4
	#2 - 1 / 0	Black	E1012-62	201281-612BM	N/A	N/A	100091-4
	1/0-3/0	Red	E1012-63	201281-712RM	E1012-71	201281-712RF	100091-5
•	1/0-3/0	Black	E1012-64	201281-712BM	E1012-72	201281-712BF	100091-5
	3/0-4/0	Red	E1012-65	201281-812RM	E1012-73	201281-812RF	100091-6
	3/0-4/0	Black	E1012-66	201281-812BM	E1012-74	201281-812BF	100091-6

E1012-66

Ordering Information - Solder Plugs:

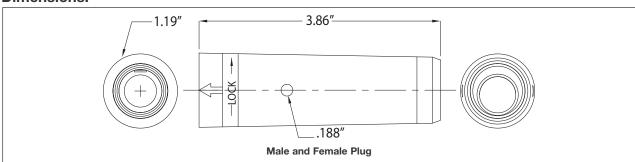


	Cable Size	Color	Complete Cat. #	Insulator Cat. #	Complete Cat. #	Insulator Cat. #	Retaining Pin Cat. #
	#2 - 1 / 0	Red	E1012-101	201281-612RM	N/A	N/A	100091-4
	#2 - 1 / 0	Black	E1012-102	201281-612BM	N/A	N/A	100091-4
	1/0-3/0	Red	E1012-103	201281-712RM	E1012-111	201281-712RF	100091-5
	1/0-3/0	Black	E1012-104	201281-712BM	E1012-112	201281-712BF	100091-5
	3/0-4/0	Red	E1012-105	201281-812RM	E1012-113	201281-812RF	100091-6
	3/0-4/0	Black	E1012-106	201281-812BM	E1012-114	201281-812BF	100091-6

E1012-71

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



11P Cam-Lok™ F Series E1012 Plugs

Cable Size #2 AWG - 4 / 0 120VAC Up to 315A Continuous, 550A Intermittent

F Series E1012, Elastomeric

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- · Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy identification
- · Accepts a wide range of cable sizes

Testing and Code Compliance:

OSHA compliant

Material Characteristics:

- Insulator TPE
- Temperature rating: -40°C to 105°C

Ordering Information - Single Set Screw Plugs:



Cable Size	Color	Complete Cat. #	Contact Cat. #	Insulator Cat. #	Complete Cat. #	Contact Cat. #	Insulator Cat. #
#2 - 2 / 0	Black	E1012-8300	A200081-1	A200068-19	E1012-8325	A200067-1	A200069-19
#2 - 2 / 0	Red	E1012-8302	A200081-1	A200068-21	E1012-8327	A200067-1	A200069-21
2/0-4/0	Black	E1012-8312	A200080-1	A200068-13	E1012-8337	A200066-1	A200069-13
2/0-4/0	Red	E1012-8314	A200080-1	A200068-15	E1012-8339	A200066-1	A200069-15

Single Set Screw Female Plugs

Double Set Screw Female Plugs

E1012-8350

Ordering Information - Double Set Screw Plugs:



Cable Size	Color	Complete Cat. #	Contact Cat. #	Insulator Cat. #	Complete Cat. #	Contact Cat. #	Insulator Cat. #
#2 - 2 / 0	Black	E1012-8350	A200643-1	A200068-19	E1012-8375	A200640-1	A200069-19
#2 - 2 / 0	Red	E1012-8352	A200643-1	A200068-21	E1012-8377	A200640-1	A200069-21
2/0-4/0	Black	E1012-8362	A200644-1	A200068-13	E1012-8387	A200642-1	A200069-13
2/0-4/0	Red	E1012-8364	A200644-1	A200068-15	E1012-8389	A200642-1	A200069-15

E1012-8377

Ordering Information - Crimp or Solder Plugs:

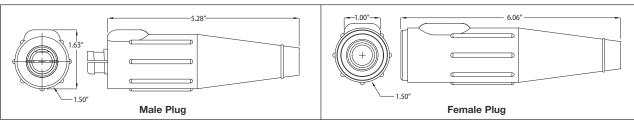
	Crimp of	r Solder Male Plu	gs	Crimp or Solder Female Plugs					
Cable Size	Color	Complete Cat. #	Contact Cat. #	Insulator Cat. #	Complete Cat. #	Contact Cat. #	Insulator Cat. #		
#2 - #1	Black	E1012-8006	A200036-30	A200068-19	E1012-8056	A200037-35	A200069-19		
#2 - #1	Red	E1012-8008	A200036-30	A200068-21	E1012-8058	A200037-35	A200069-21		
1/0-2/0	Black	E1012-8012	A200036-31	A200068-19	E1012-8062	A200037-36	A200069-19		
1/0-2/0	Red	E1012-8014	A200036-31	A200068-21	E1012-8064	A200037-35	A200069-21		
3/0-4/0	Black	E1012-8030	A200038-30	A200068-13	E1012-8080	A200035-53	A200069-13		
3/0-4/0	Red	E1012-8032	A200038-30	A200068-15	E1012-8082	A200035-53	A200069-15		

Single Set Screw Male Plugs

Double Set Screw Male Plugs

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Crouse-Hinds

Cable Size #2 AWG - 4 / 0 120VAC

Up to 315A Continuous, 550A Intermittent

F Series E1012, Reinforced Thermoplastic or Elastomeric

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Product body molded from colorfast material, color-coded for easy identification
- Panel receptacles are safety insulated for direct mounting to steel panels
- · Accepts a wide range of cable sizes

Testing and Code Compliance:

OSHA compliant

Material Characteristics:

- Insulator reinforced thermoplastic or TPE
- Temperature rating: -40°C to 105°C

Ordering Information - Female Terminal Connectors:



Cable Size	Color	Cat. #	Cat. #	
#2 - 3 / 0	Red	A201317-1	A201317-5	
#2 - 3 / 0	Black	A201317-2	A201317-6	
4 / 0	Red	A201317-3	N/A	
4/0	Black	A201317-4	N/A	

A201317-6

Bolt hole: 1/2"

Ordering Information - Three Way "T" Connectors:

 Cable Size	Color	Paralleling "T" Cat. # M-M-F	Tapping "T" Cat. # M-F-F
#2 - 4 / 0	Red	E1012-2324	E1012-2314
#2 - 4 / 0	Black	E1012-2326	E1012-2312

Ordering Information - High Impact Receptacles:

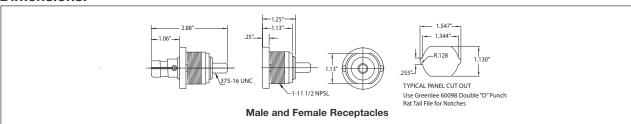


Cable Size	Color	Cat. #	Description	Contact Material
#2 - 3 / 0	Red	E1012-301	Female Receptacle	Brass
#2 - 3 / 0	Black	E1012-302	Female Receptacle	Brass
#2 - 4 / 0	Red	E1012-303	Female Receptacle	Brass
#2 - 4 / 0	Black	E1012-304	Female Receptacle	Brass
#2 - 4 / 0	Red	E1012-305	Female Receptacle	Copper
#2 - 4 / 0	Black	E1012-306	Female Receptacle	Copper
#2 - 4 / 0	Red	E1012-307	Male Receptacle	Brass
#2 - 4 / 0	Black	E1012-308	Male Receptacle	Brass

E1012-2324

Maximum torque: 20 ft.

To order single packaged products, add a "K" suffix to the complete catalog number.



Cable Size 2 / 0 - 4 / 0 120VAC Up to 400A Continuous, 670A Intermittent

F Series E1012, High Temperature, Reinforced Epoxy

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass or silver-plated brass to a smooth sliding fit and easy locking action
- Material designed to deliver superior performance in high temperature applications up to 365° (180°C)

Testing and Code Compliance:

OSHA compliant

Material Characteristics:

- Insulator reinforced thermoplastic or TPE
- Temperature rating: -40°C to 180°C

Ordering Information - Double Set Screw Male Plugs:



Cable Size	Contact Material	Color			Cat. #	Cat. #
2/0-4/0	Brass	Black	E1012-88	200639-4	101037-2	100091-22
2/0-4/0	Silver Plate	Black	E1012-85	200639-9	101037-2	100091-22

Complete Contact Insulator Retaining Pin

E1012-88

Ordering Information - Double Set Screw Female Plugs:

 Cable Size	Contact Material	Color		Complete Cat. #		Retaining Pin Cat. #
2/0-4/0	Brass	Black	101036-2	E1012-98	200641-10	100091-22
2/0-4/0	Silver Plate	Black	101036-2	E1012-95	200641-11	100091-22

Ordering Information - High Temperature Receptacles:

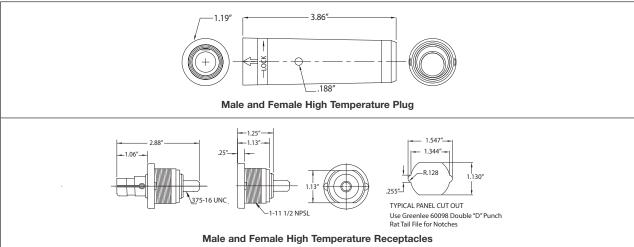


Cable Size	Color	Cat. #	Description	Contact Material
2/0-4/0	Black	E1012-502	Female Receptacle	Brass
2/0-4/0	Black	E1012-508	Male Receptacle	Brass

E1012-502

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



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Cam-Lok™ J Series Connectors are specifically designed to meet the needs of demanding portable applications. J Series Plugs and Receptacles are the proven industry standard single pole connectors for reliability and service with added safety.

Applications:

- J Series Plugs and Receptacles are specifically designed for industrial power distribution applications requiring quick, tool-free connections
- Ideal for portable power, power distribution, motors, generators, and entertainment applications
- J Series replaces traditional hard wiring while cutting downtime and maintenance
- J Series Connectors are insulated, shatter/crack-resistant and watertight, plus heat-, weather-, ozone-, oil-, and abrasion-resistant

Certifications and Compliances:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3 LR13963

Environmental Ratings:

NEMA 3R or NEMA 4

Standard Materials:

- Accepts cable sizes: #8 AWG 750 MCM
- Insulator elastomeric or rubber
- Contact brass or copper

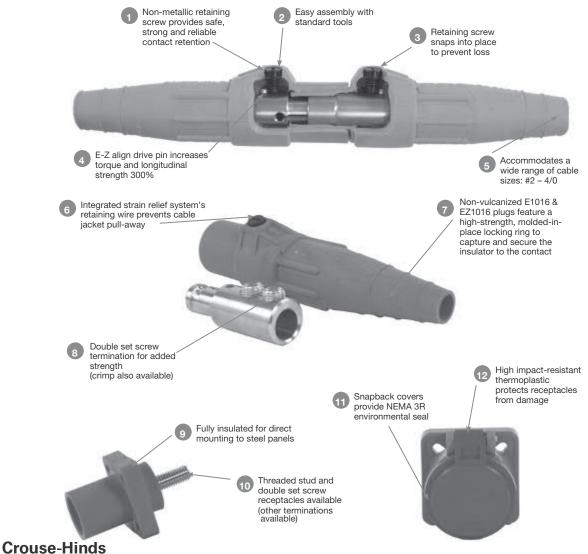
Electrical Ratings:

- 600 Volts AC/DC
- 690 Amps continuous

Temperature Ratings:

• -40°C to 105°C

Features:



Cable Size #8 - #4 AWG 600V AC/DC **Up to 150A Continuous**

J Series E1015, Elastomeric, Non-vulcanized, Single Set Screw Connection **Features:**

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action • Watertight elastomeric insulators molded from colorfast material,
- color-coded for easy phase identification · Recessed contacts protected by insulating jacket that extends
- beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- · Accepts a wide range of cable sizes

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#8 - #4	Black	E1015-8306	A100864-1	A100869-7
#8 - #4	Red	E1015-8308	A100864-1	A100869-9
#8 - #4	Green	E1015-8310	A100864-1	A100869-11
#8 - #4	White	E1015-8311	A100864-1	A100869-12
#8 - #4	Blue	E1015-8313	A100864-1	A100869-14
#8 - #4	Brown	E1015-8314	A100864-1	A100869-15
#8 - #4	Orange	E1015-8309	A100864-1	A100869-10
#8 - #4	Yellow	E1015-8307	A100864-1	A100869-8

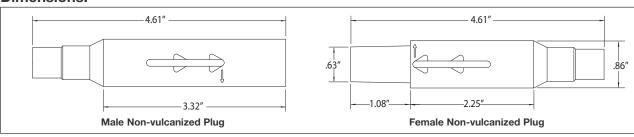
E1015-8313

Ordering Information - Set Screw Non-vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#8 - #4	Black	E1015-8331	A100865-1	A100868-7
#8 - #4	Red	E1015-8333	A100865-1	A100868-9
#8 - #4	Green	E1015-8335	A100865-1	A100868-11
#8 - #4	White	E1015-8336	A100865-1	A100868-12
#8 - #4	Blue	E1015-8338	A100865-1	A100868-14
#8 - #4	Brown	E1015-8339	A100865-1	A100868-15
#8 - #4	Orange	E1015-8334	A100865-1	A100868-10
#8 _ #1	Vollow	F1015-8332	A100865-1	A100868-8

To order single packaged products, add a "K" suffix to the complete catalog number.



Cable Size #8 - #4 AWG 600V AC/DC Up to 150A Continuous

J Series E1015, Rubber, Vulcanized, Crimp Connection

Features:

- Vulcanizing permanently affixes plug insulator to cable for maximum protection against bare conductors, water, all kinds of weather, corrosion, and other contaminants (requires vulcanizing kit/presses)
- Vulcanizing also reduces cable breakage by distributing flexing over a wide area for an effective strain relief system
- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight neoprene insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987. File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 4
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#8 - #4	Black	E1015-1	A100087-1	A100092-1
#8 - #4	Red	E1015-3	A100087-1	A100092-3
#8 - #4	Green	E1015-5	A100087-1	A100092-5
#8 - #4	White	E1015-6	A100087-1	A100092-6
#8 - #4	Blue	E1015-19	A100087-1	A100092-7
#8 - #4	Brown	E1015-22	A100087-1	A100092-8
#8 - #4	Orange	E1015-4	A100087-1	A100092-4
#8 - #4	Yellow	E1015-2	A100087-1	A100092-2

E1015-2

Ordering Information - Crimp Vulcanized Female Plugs:

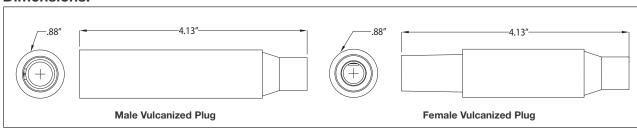


Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#8 - #4	Black	E1015-50	A100088-1	A100093-1
#8 - #4	Red	E1015-52	A100088-1	A100093-3
#8 - #4	Green	E1015-54	A100088-1	A100093-5
#8 - #4	White	E1015-55	A100088-1	A100093-6
#8 - #4	Blue	E1015-47	A100088-1	A100093-14
#8 - #4	Brown	E1015-44	A100088-1	A100093-15
#8 - #4	Orange	E1015-53	A100088-1	A100093-4
#8 - #4	Yellow	E1015-51	A100088-1	A100093-2

E1015-55

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



11P Cam-Lok™ J Series E1015 Receptacles and Terminals

Cable Size #8 - #4 AWG 600V AC/DC Up to 150A Continuous

J Series E1015, Elastomeric or Rubber Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- V_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Product body molded from colorfast material, color-coded for easy phase identification
- Receptacles are watertight elastomeric; terminals are rubber
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Receptacles are safety insulated for direct mounting to steel panels

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body TPE (receptacles) or rubber (terminals)
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Threaded Studs:



Cable Size	Color	Complete Cat. #	Complete Cat. #
#8 - #4	Black	E1015-1600	E1015-1625
#8 - #4	Red	E1015-1602	E1015-1627
#8 - #4	Green	E1015-1604	E1015-1629
#8 - #4	White	E1015-1605	E1015-1630
#8 - #4	Blue	E1015-1606	E1015-1631
#8 - #4	Brown	E1015-1607	E1015-1632
#8 - #4	Orange	E1015-1603	E1015-1628
#8 - #4	Yellow	E1015-1601	E1015-1626

Male Pecentacia

E1015-1604

Stud size: 5/16"; torque: 15 ft.-lbs.

Ordering Information - Female Terminals:



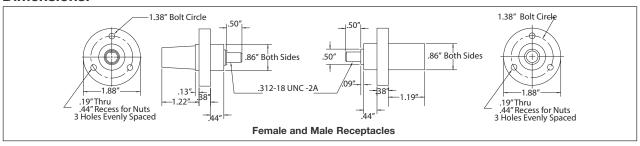
Cable Size	Color	Cat. #	Cat. #	
#8 - #4	Black	E1015-575	E1015-625	
#8 - #4	Red	E1015-577	E1015-627	
#8 - #4	Green	E1015-579	E1015-629	
#8 - #4	White	E1015-580	E1015-630	_
#8 - #4	Blue	E1015-581	E1015-631	
#8 - #4	Brown	E1015-589	E1015-632	
#8 - #4	Orange	E1015-578	E1015-628	_
#8 - #4	Yellow	E1015-576	E1015-626	

Angle Style

E1015-1625

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



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Offset Style

11P

Cam-Lok™ J Series E1015 Accessories

Cable Size #8 - #4 AWG 600V AC/DC Up to 150A Continuous

J Series E1015, Rubber Features:

- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- V_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit, even before to locking
- Watertight neoprene insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

• Body - rubber

Paralleling "T"

- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Three Way "T" Connectors:



Color	Complete Cat. # M-M-F	Complete Cat. # M-F-F
Black	E1015-2324	E1015-2312
Red	E1015-2326	E1015-2314
Green	E1015-2328	E1015-2316
White	E1015-2329	E1015-2317
Blue	E1015-2348	E1015-2350
Brown	E1015-2342	E1015-2370
Orange	E1015-2327	E1015-2315
Yellow	E1015-2325	E1015-2313

E1015-2314

Ordering Information - Adapters:

Double Female	Double Male	Male/Female
Complete Cat. #	Complete Cat. #	Complete Cat. #
E1015-2352	E1015-2362	E1015-2336
E1015-2354	E1015-2364	E1015-2338
E1015-2356	E1015-2366	E1015-2340
F1015-2357	E1015-2367	E1015-2341

Double Female	Double Male	Male/Female
Complete Cat. #	Complete Cat. #	Complete Cat. #
E1015-2358	E1015-2368	E1015-2361
E1015-2359	E1015-2369	E1015-2371
E1015-2355	E1015-2365	E1015-2339
E1015-2353	E1015-2363	E1015-2337

Tapping "T"

Ordering Information - Protective Caps:

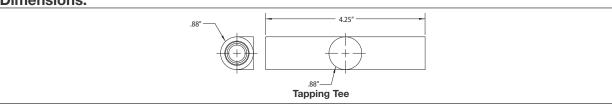


Color	Male Cat. #	Female Cat. #
Black	A100793-1	A100792-1
Red	A100793-3	A100792-3
Green	A100793-5	A100792-5
White	A100793-6	A100792-6
Blue	A100793-7	A100792-13
Brown	A100793-8	A100792-7
Orange	A100793-4	A100792-4
Yellow	A100793-2	A100792-2

A100792-1

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Cam-Lok™ J Series E-Z1016 11P **Pluqs**

Cable Size #2 AWG - 2 / 0 600V AC/DC **Up to 300A Continuous**

J Series E-Z1016, Elastomeric, Non-vulcanized, Double Set Screw Connection **Testing and Code Compliance: Features:**

- E-Z assembly and disassembly no tools needed
- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- · Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- · Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- · Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact
- · Accepts a wide range of cable sizes

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987. File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Double Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - 2 / 0	Black	E-Z1016-8350	A200630-1	E-Z200074-19
#2 - 2 / 0	Red	E-Z1016-8352	A200630-1	E-Z200074-21
#2 - 2 / 0	Green	E-Z1016-8354	A200630-1	E-Z200074-23
#2 - 2 / 0	White	E-Z1016-8355	A200630-1	E-Z200074-24
#2 - 2 / 0	Blue	E-Z1016-8356	A200630-1	E-Z200074-38
#2 - 2 / 0	Brown	E-Z1016-8357	A200630-1	E-Z200074-47
#2 - 2 / 0	Orange	E-Z1016-8353	A200630-1	E-Z200074-22
#2 - 2 / 0	Yellow	E-Z1016-8351	A200630-1	E-Z200074-20

E-Z1016-8354

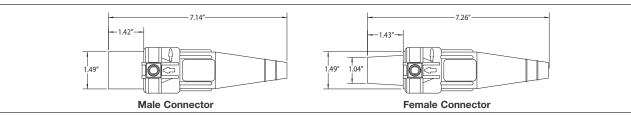
Ordering Information - Double Set Screw Non-vulcanized Female Plugs:



Cable Size	Color	Cat. #	Cat. #	Cat. #
#2 - 2 / 0	Black	E-Z1016-8375	A200640-3	E-Z200075-19
#2 - 2 / 0	Red	E-Z1016-8377	A200640-3	E-Z200075-21
#2 - 2 / 0	Green	E-Z1016-8379	A200640-3	E-Z200075-23
#2 - 2 / 0	White	E-Z1016-8380	A200640-3	E-Z200075-24
#2 - 2 / 0	Blue	E-Z1016-8381	A200640-3	E-Z200075-44
#2 - 2 / 0	Brown	E-Z1016-8382	A200640-3	E-Z200075-52
#2 - 2 / 0	Orange	E-Z1016-8378	A200640-3	E-Z200075-22
#2 - 2 / 0	Yellow	E-Z1016-8376	A200640-3	E-Z200075-20

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



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Cable Size 2 / 0 - 4 / 0 600V AC/DC Up to 400A Continuous

J Series E-Z1016, Elastomeric, Non-vulcanized, Double Set Screw Connection Features: Testing and Code Compliance:

- E-Z assembly and disassembly no tools needed
- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- V_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact
- Accepts a wide range of cable sizes

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Double Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Cat. #	Cat. #	Cat. #
2/0-4/0	Black	E-Z1016-8362	A200639-1	E-Z200074-60
2/0-4/0	Red	E-Z1016-8364	A200639-1	E-Z200074-62
2/0-4/0	Green	E-Z1016-8366	A200639-1	E-Z200074-64
2/0-4/0	White	E-Z1016-8367	A200639-1	E-Z200074-65
2/0-4/0	Blue	E-Z1016-8368	A200639-1	E-Z200074-66
2/0-4/0	Brown	E-Z1016-8369	A200639-1	E-Z200074-67
2/0-4/0	Orange	E-Z1016-8365	A200639-1	E-Z200074-63
2/0-4/0	Yellow	E-Z1016-8363	A200639-1	E-Z200074-61

E-Z1016-8368

Ordering Information - Double Set Screw Non-vulcanized Female Plugs:

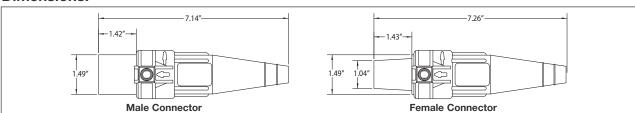


Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
2/0-4/0	Black	E-Z1016-8387	A200641-1	E-Z200075-60
2/0-4/0	Red	E-Z1016-8389	A200641-1	E-Z200075-62
2/0-4/0	Green	E-Z1016-8391	A200641-1	E-Z200075-64
2/0-4/0	White	E-Z1016-8392	A200641-1	E-Z200075-65
2/0-4/0	Blue	E-Z1016-8393	A200641-1	E-Z200075-66
2/0-4/0	Brown	E-Z1016-8394	A200641-1	E-Z200075-67
2/0-4/0	Orange	E-Z1016-8390	A200641-1	E-Z200075-63
2/0-4/0	Yellow	F-71016-8388	Δ200641-1	F-7200075-61

E-Z1016-8389

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



11P Cam-Lok™ J Series E-Z1016 Plugs

Cable Size #2 - #1 AWG 600V AC/DC Up to 190A Continuous

J Series E-Z1016, Elastomeric, Non-vulcanized, Crimp Connection

Features:

- E-Z assembly and disassembly no tools needed
- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Cat. #
#2 - #1	Black	E-Z1016-8006	A200036-18	E-Z200074-19
#2 - #1	Red	E-Z1016-8008	A200036-18	E-Z200074-21
#2 - #1	Green	E-Z1016-8010	A200036-18	E-Z200074-23
#2 - #1	White	E-Z1016-8011	A200036-18	E-Z200074-24
#2 - #1	Blue	E-Z1016-7700	A200036-18	E-Z200074-38
#2 - #1	Brown	E-Z1016-7701	A200036-18	E-Z200074-47
#2 - #1	Orange	E-Z1016-8009	A200036-18	E-Z200074-22
#2 - #1	Yellow	E-Z1016-8007	A200036-18	E-Z200074-20

E-Z1016-8006

Ordering Information - Crimp Non-vulcanized Female Plugs:

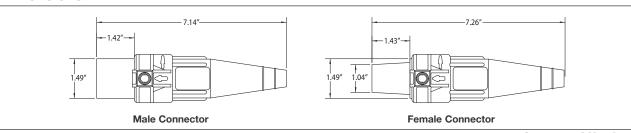


Cable Size	Color	Complete Cat. #	Cat. #	Cat. #
#2 - #1	Black	E-Z1016-8056	A200037-23	E-Z200075-19
#2 - #1	Red	E-Z1016-8058	A200037-23	E-Z200075-21
#2 - #1	Green	E-Z1016-8060	A200037-23	E-Z200075-23
#2 - #1	White	E-Z1016-8061	A200037-23	E-Z200075-24
#2 - #1	Blue	E-Z1016-7716	A200037-23	E-Z200075-44
#2 - #1	Brown	E-Z1016-7717	A200037-23	E-Z200075-52
#2 - #1	Orange	E-Z1016-8059	A200037-23	E-Z200075-22
#2 - #1	Yellow	E-Z1016-8057	A200037-23	E-Z200075-20

E-Z1016-8058

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Cable Size 1 / 0 - 2 / 0 600V AC/DC Up to 300A Continuous

J Series E-Z1016, Elastomeric, Non-vulcanized, Crimp Connection

Features:

- E-Z assembly and disassembly
- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- $1/_3$ of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
1/0-2/0	Black	E-Z1016-8018	A200038-11	E-Z200074-60
1/0-2/0	Red	E-Z1016-8020	A200038-11	E-Z200074-62
1/0-2/0	Green	E-Z1016-8022	A200038-11	E-Z200074-64
1/0-2/0	White	E-Z1016-8023	A200038-11	E-Z200074-65
1/0-2/0	Blue	E-Z1016-7704	A200038-11	E-Z200074-66
1/0-2/0	Brown	E-Z1016-7705	A200038-11	E-Z200074-67
1/0-2/0	Orange	E-Z1016-8021	A200038-11	E-Z200074-63
1/0-2/0	Yellow	E-Z1016-8019	A200038-11	E-Z200074-61

E-Z1016-8021

Ordering Information - Crimp Non-vulcanized Female Plugs:

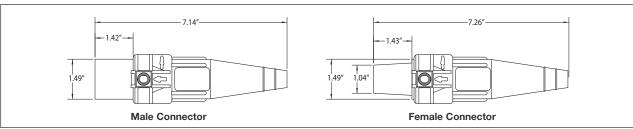


Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
1/0-2/0	Black	E-Z1016-8068	A200035-17	E-Z200075-60
1/0-2/0	Red	E-Z1016-8070	A200035-17	E-Z200075-62
1/0-2/0	Green	E-Z1016-8072	A200035-17	E-Z200075-64
1/0-2/0	White	E-Z1016-8073	A200035-17	E-Z200075-65
1/0-2/0	Blue	E-Z1016-7720	A200035-17	E-Z200075-66
1/0-2/0	Brown	E-Z1016-7721	A200035-17	E-Z200075-67
1/0-2/0	Orange	E-Z1016-8071	A200035-17	E-Z200075-63
1/0-2/0	Yellow	E-Z1016-8069	A200035-17	E-Z200075-61

E-Z1016-8073

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



11P Cam-Lok™ J Series E-Z1016 Plugs

Cable Size 3 / 0 - 4 / 0 600V AC/DC Up to 400A Continuous

J Series E-Z1016, Elastomeric, Non-vulcanized, Crimp Connection

Features:

- E-Z assembly and disassembly no tools needed
- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- V_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Cat. #
3/0-4/0	Black	E-Z1016-8030	A200038-6	E-Z200074-60
3/0-4/0	Red	E-Z1016-8032	A200038-6	E-Z200074-62
3/0-4/0	Green	E-Z1016-8034	A200038-6	E-Z200074-64
3/0-4/0	White	E-Z1016-8035	A200038-6	E-Z200074-65
3/0-4/0	Blue	E-Z1016-7708	A200038-6	E-Z200074-66
3/0-4/0	Brown	E-Z1016-7709	A200038-6	E-Z200074-67
3/0-4/0	Orange	E-Z1016-8033	A200038-6	E-Z200074-63
3/0-4/0	Yellow	E-Z1016-8031	A200038-6	E-Z200074-61

E-Z1016-8031

Ordering Information - Crimp Non-vulcanized Female Plugs:



Cable Size	Color	Cat. #	Cat. #	Cat. #
3/0-4/0	Black	E-Z1016-8080	A200035-14	E-Z200075-60
3/0-4/0	Red	E-Z1016-8082	A200035-14	E-Z200075-62
3/0-4/0	Green	E-Z1016-8084	A200035-14	E-Z200075-64
3/0-4/0	White	E-Z1016-8085	A200035-14	E-Z200075-65
3/0-4/0	Blue	E-Z1016-7724	A200035-14	E-Z200075-66
3/0-4/0	Brown	E-Z1016-7725	A200035-14	E-Z200075-67
3/0-4/0	Orange	E-Z1016-8083	A200035-14	E-Z200075-63
3/0-4/0	Yellow	E-Z1016-8081	A200035-14	E-Z200075-61

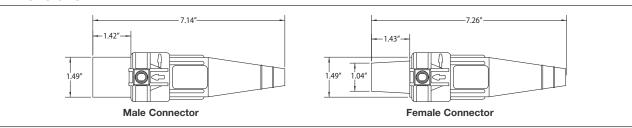
Contact Only

Complete

E-Z1016-7724

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Crouse-Hinds

Inculator Only

Cable Size #2 AWG - 2 / 0 600V AC/DC **Up to 300A Continuous**

J Series E1016, Elastomeric, Non-vulcanized, Double Set Screw Connection **Features:**

- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- · Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact
- · Accepts a wide range of cable sizes

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Double Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - 2 / 0	Black	E1016-8350	A200630-1	A200074-19
#2 - 2 / 0	Red	E1016-8352	A200630-1	A200074-21
#2 - 2 / 0	Green	E1016-8354	A200630-1	A200074-23
#2 - 2 / 0	White	E1016-8355	A200630-1	A200074-24
#2 - 2 / 0	Blue	E1016-8356	A200630-1	A200074-38
#2 - 2 / 0	Brown	E1016-8357	A200630-1	A200074-47
#2 - 2 / 0	Orange	E1016-8353	A200630-1	A200074-22
#2 - 2 / 0	Yellow	E1016-8351	A200630-1	A200074-20

E1016-8354 Ordering Information - Double Set Screw Non-vulcanized Female Plugs:

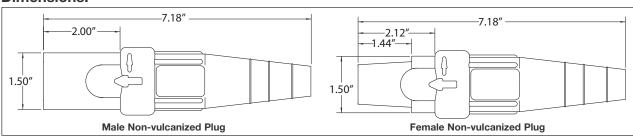


Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - 2 / 0	Black	E1016-8375	A200640-3	A200075-19
#2 - 2 / 0	Red	E1016-8377	A200640-3	A200075-21
#2 - 2 / 0	Green	E1016-8379	A200640-3	A200075-23
#2 - 2 / 0	White	E1016-8380	A200640-3	A200075-24
#2 - 2 / 0	Blue	E1016-8381	A200640-3	A200075-44
#2 - 2 / 0	Brown	E1016-8382	A200640-3	A200075-52
#2 - 2 / 0	Orange	E1016-8378	A200640-3	A200075-22
#2 - 2 / 0	Yellow	E1016-8376	A200640-3	A200075-20

E1016-8380

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Crouse-Hinds by **F**:**T·N**

Cam-Lok™ J Series E1016 11P **Pluqs**

Cable Size 2 / 0 - 4 / 0 600V AC/DC **Up to 400A Continuous**

J Series E1016, Elastomeric, Non-vulcanized, Double Set Screw Connection **Testing and Code Compliance: Features:**

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- 400A continuous duty rating when used with 90°C 4 / 0 cable
- · Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- · Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- · Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- · Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact
- · Accepts a wide range of cable sizes

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Double Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Cat. #	Cat. #	Cat. #
2/0-4/0	Black	E1016-8362	A200639-1	A200074-60
2/0-4/0	Red	E1016-8364	A200639-1	A200074-62
2/0-4/0	Green	E1016-8366	A200639-1	A200074-64
2/0-4/0	White	E1016-8367	A200639-1	A200074-65
2/0-4/0	Blue	E1016-8368	A200639-1	A200074-66
2/0-4/0	Brown	E1016-8369	A200639-1	A200074-67
2/0-4/0	Orange	E1016-8365	A200639-1	A200074-63
2/0-4/0	Yellow	E1016-8363	A200639-1	A200074-61

E1016-8367 Ordering Information - Double Set Screw Non-vulcanized Female Plugs:



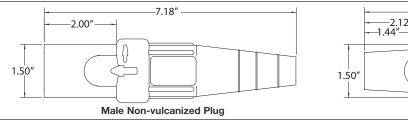
Cable Size	Color	Cat. #	Cat. #	Cat. #
2/0-4/0	Black	E1016-8387	A200641-1	A200075-60
2/0-4/0	Red	E1016-8389	A200641-1	A200075-62
2/0-4/0	Green	E1016-8391	A200641-1	A200075-64
2/0-4/0	White	E1016-8392	A200641-1	A200075-65
2/0-4/0	Blue	E1016-8393	A200641-1	A200075-66
2/0-4/0	Brown	E1016-8394	A200641-1	A200075-67
2/0-4/0	Orange	E1016-8390	A200641-1	A200075-63
2/0-4/0	Yellow	E1016-8388	A200641-1	A200075-61

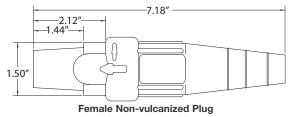
Complete

E1016-8393

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:





Contact Only

Crouse-Hinds by **F**:**T•N**

Insulator Only

Cam-Lok™ J Series E1016 **Plugs**

Cable Size #2 - #1 AWG 600V AC/DC **Up to 190A Continuous**

J Series E1016, Elastomeric, Non-vulcanized, Crimp Connection **Features:**

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- · Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

- **Testing and Code Compliance:** Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - #1	Black	E1016-8006	A200036-18	A200074-19
#2 - #1	Red	E1016-8008	A200036-18	A200074-21
#2 - #1	Green	E1016-8010	A200036-18	A200074-23
#2 - #1	White	E1016-8011	A200036-18	A200074-24
#2 - #1	Blue	E1016-7700	A200036-18	A200074-38
#2 - #1	Brown	E1016-7701	A200036-18	A200074-47
#2 - #1	Orange	E1016-8009	A200036-18	A200074-22
#2 - #1	Yellow	E1016-8007	A200036-18	A200074-20

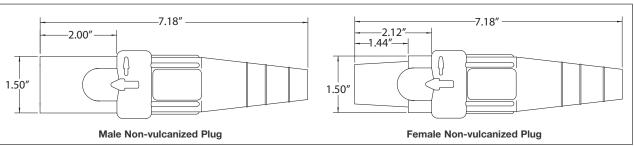
E1016-8006 **Ordering Information - Crimp Non-vulcanized Female Plugs:**



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - #1	Black	E1016-8056	A200037-23	A200075-19
#2 - #1	Red	E1016-8058	A200037-23	A200075-21
#2 - #1	Green	E1016-8060	A200037-23	A200075-23
#2 - #1	White	E1016-8061	A200037-23	A200075-24
#2 - #1	Blue	E1016-7716	A200037-23	A200075-44
#2 - #1	Brown	E1016-7717	A200037-23	A200075-52
#2 - #1	Orange	E1016-8059	A200037-23	A200075-22
#2 - #1	Yellow	E1016-8057	A200037-23	A200075-20

E1016-8058

To order single packaged products, add a "K" suffix to the complete catalog number.



Cam-Lok™ J Series E1016 11P **Pluqs**

Cable Size 1 / 0 - 2 / 0 600V AC/DC **Up to 235A Continuous**

J Series E1016, Elastomeric, Non-vulcanized, Crimp Connection **Features:**

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- · Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety • Integrated strain relief system features a retaining wire that
- prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Cat. #	Cat. #
1/0-2/0	Black	E1016-8018	A200038-11B	A200074-13
1/0-2/0	Red	E1016-8020	A200038-11B	A200074-15
1/0-2/0	Green	E1016-8022	A200038-11B	A200074-17
1/0-2/0	White	E1016-8023	A200038-11B	A200074-18
1/0-2/0	Blue	E1016-7704	A200038-11B	A200074-37
1/0-2/0	Brown	E1016-7705	A200038-11B	A200074-46
1/0-2/0	Orange	E1016-8021	A200038-11B	A200074-16
1/0-2/0	Yellow	E1016-8019	A200038-11B	A200074-14

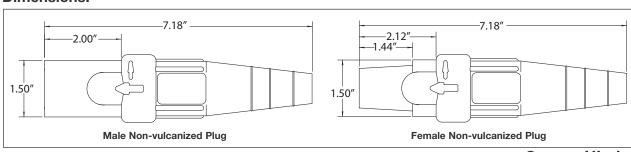
E1016-8020 Ordering Information - Crimp Non-vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
1/0-2/0	Black	E1016-8068	A200035-17B	A200075-13
1/0-2/0	Red	E1016-8070	A200035-17B	A200075-15
1/0-2/0	Green	E1016-8072	A200035-17B	A200075-17
1/0-2/0	White	E1016-8073	A200035-17B	A200075-18
1/0-2/0	Blue	E1016-7720	A200035-17B	A200075-37
1/0-2/0	Brown	E1016-7721	A200035-17B	A200075-51
1/0-2/0	Orange	E1016-8071	A200035-17B	A200075-16
1/0-2/0	Yellow	E1016-8069	A200035-17B	A200075-14

E1016-8069

To order single packaged products, add a "K" suffix to the complete catalog number.



Cable Size 3 / 0 - 4 / 0 600V AC/DC **Up to 315A Continuous**

J Series E1016, Elastomeric, Non-vulcanized, Crimp Connection **Features:**

- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- · Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
3/0-4/0	Black	E1016-8030	A200038-6B	A200074-13
3/0-4/0	Red	E1016-8032	A200038-6B	A200074-15
3/0-4/0	Green	E1016-8034	A200038-6B	A200074-17
3/0-4/0	White	E1016-8035	A200038-6B	A200074-18
3/0-4/0	Blue	E1016-7708	A200038-6B	A200074-37
3/0-4/0	Brown	E1016-7709	A200038-6B	A200074-46
3/0-4/0	Orange	E1016-8033	A200038-6B	A200074-16
3/0-4/0	Yellow	E1016-8031	A200038-6B	A200074-14

E1016-8035

Ordering Information - Crimp Non-vulcanized Female Plugs:

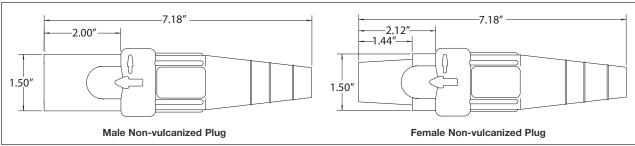


Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
3/0-4/0	Black	E1016-8080	A200035-14B	A200075-13
3/0-4/0	Red	E1016-8082	A200035-14B	A200075-15
3/0-4/0	Green	E1016-8084	A200035-14B	A200075-17
3/0-4/0	White	E1016-8085	A200035-14B	A200075-18
3/0-4/0	Blue	E1016-7724	A200035-14B	A200075-37
3/0-4/0	Brown	E1016-7725	A200035-14B	A200075-51
3/0-4/0	Orange	E1016-8083	A200035-14B	A200075-16
3/0-4/0	Yellow	E1016-8081	A200035-14B	A200075-14

E1016-7724

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Crouse-Hinds by **F**:**T·N**

11P

11P Cam-Lok™ J Series E1016 Plugs

Cable Size #2 - #1 AWG 600V AC/DC Up to 190A Continuous

J Series E1016, Rubber, Vulcanized, Crimp Connection

Features:

- Vulcanizing permanently affixes plug insulator to cable for maximum protection against water, all kinds of weather, corrosion, and other contaminants (requires vulcanizing kit/presses)
- Vulcanizing also reduces cable breakage by distributing flexing over a wide area for an effective strain relief system
- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight neoprene insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 4
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - #1	Black	E1016-7	A200036-2	A200706-7
#2 - #1	Red	E1016-9	A200036-2	A200706-9
#2 - #1	Green	E1016-11	A200036-2	A200706-11
#2 - #1	White	E1016-12	A200036-2	A200706-12
#2 - #1	Blue	E1016-46	A200036-2	A200706-97
#2 - #1	Brown	E1016-118	A200036-2	A200706-101
#2 - #1	Orange	E1016-10	A200036-2	A200706-10
#2 - #1	Yellow	E1016-8	A200036-2	A200706-8

Ordering Information - Crimp Vulcanized Female Plugs:

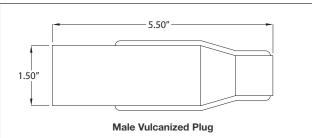


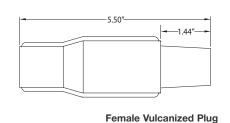
Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - #1	Black	E1016-56	A200037-2	A200705-7
#2 - #1	Red	E1016-58	A200037-2	A200705-9
#2 - #1	Green	E1016-60	A200037-2	A200705-11
#2 - #1	White	E1016-61	A200037-2	A200705-12
#2 - #1	Blue	E1016-95	A200037-2	A200705-64
#2 - #1	Brown	E1016-119	A200037-2	A200705-101
#2 - #1	Orange	E1016-59	A200037-2	A200705-10
#2 - #1	Yellow	E1016-57	A200037-2	A200705-8

E1016-58

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:







Cable Size 1 / 0 - 2 / 0 600V AC/DC Up to 235A Continuous

J Series E1016, Rubber, Vulcanized, Crimp Connection

Features:

- Vulcanizing permanently affixes plug insulator to cable for maximum protection against water, all kinds of weather, corrosion, and other contaminants (requires vulcanizing kit/presses)
- Vulcanizing also reduces cable breakage by distributing flexing over a wide area for an effective strain relief system
- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- ½ of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight neoprene insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 4
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs:



Cable Size	Color	Cat. #	Cat. #	Cat. #
1/0-2/0	Black	E1016-13	A200036-3	A200706-7
1/0-2/0	Red	E1016-15	A200036-3	A200706-9
1/0-2/0	Green	E1016-17	A200036-3	A200706-11
1/0-2/0	White	E1016-18	A200036-3	A200706-12
1/0-2/0	Blue	E1016-43	A200036-3	A200706-97
1/0-2/0	Brown	E1016-120	A200036-3	A200706-101
1/0-2/0	Orange	E1016-16	A200036-3	A200706-10
1/0-2/0	Yellow	E1016-14	A200036-3	A200706-8

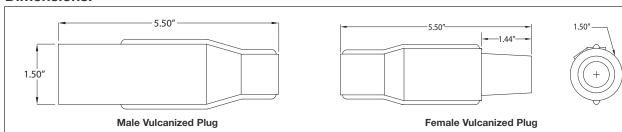
Crdering Information - Crimp Vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
1/0-2/0	Black	E1016-62	A200037-3	A200705-7
1/0-2/0	Red	E1016-64	A200037-3	A200705-9
1/0-2/0	Green	E1016-66	A200037-3	A200705-11
1/0-2/0	White	E1016-67	A200037-3	A200705-12
1/0-2/0	Blue	E1016-92	A200037-3	A200705-64
1/0-2/0	Brown	E1016-121	A200037-3	A200705-101
1/0-2/0	Orange	E1016-65	A200037-3	A200705-10
1/0-2/0	Yellow	E1016-63	A200037-3	A200705-8

E1016-66

To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ J Series E1016 Plugs

Cable Size 3 / 0 - 4 / 0 600V AC/DC Up to 315A Continuous

J Series E1016, Rubber, Vulcanized, Crimp Connection

Features:

- Vulcanizing permanently affixes plug insulator to cable for maximum protection against water, all kinds of weather, corrosion, and other contaminants (requires vulcanizing kit/presses)
- Vulcanizing also reduces cable breakage by distributing flexing over a wide area for an effective strain relief system
- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- V_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight neoprene insulators molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 4
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
3/0-4/0	Black	E1016-31	A200038-2	A200706-13
3/0-4/0	Red	E1016-33	A200038-2	A200706-15
3/0-4/0	Green	E1016-35	A200038-2	A200706-17
3/0-4/0	White	E1016-36	A200038-2	A200706-18
3/0-4/0	Blue	E1016-45	A200038-2	A200706-64
3/0-4/0	Brown	E1016-465	A200038-2	A200706-19
3/0-4/0	Orange	E1016-34	A200038-2	A200706-16
3/0-4/0	Yellow	E1016-32	A200038-2	A200706-14

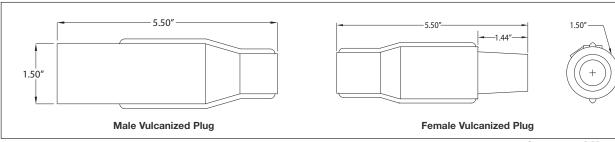
Crdering Information - Crimp Vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
3/0-4/0	Black	E1016-80	A200035-2	A200705-13
3/0-4/0	Red	E1016-82	A200035-2	A200705-15
3/0-4/0	Green	E1016-84	A200035-2	A200705-17
3/0-4/0	White	E1016-85	A200035-2	A200705-18
3/0-4/0	Blue	E1016-94	A200035-2	A200705-65
3/0-4/0	Brown	E1016-98	A200035-2	A200705-19
3/0-4/0	Orange	E1016-83	A200035-2	A200705-16
3/0-4/0	Yellow	F1016-81	A200035-2	Δ200705-14

E1016-86

To order single packaged products, add a "K" suffix to the complete catalog number.



Cam-Lok™ J Series E1016 Receptacles

Cable Size #6 AWG - 250 MCM 600V AC/DC Up to 400A Continuous

J Series E1016, Elastomeric, Threaded Stud Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric body molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- · Receptacles are safety insulated for direct mounting to steel panels

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Insulated Receptacles - 11/8" Threaded Stud:



Color	Male Complete Cat. #	Female Complete Cat. #	
Black	E1016-1600S	E1016-1631S	
Red	E1016-1602S	E1016-1633S	
Green	E1016-1604S	E1016-1635S	
White	E1016-1605S	E1016-1636S	
Blue	E1016-1612S	E1016-1643S	
Brown	E1016-1619S	E1016-1687S	
Orange	E1016-1603S	E1016-1634S	
Yellow	E1016-1601S	E1016-1632S	

E1016-1602S 11/8"

Stud size: 1/2" - 13; maximum torque: 40 ft.-lbs.

Ordering Information - Insulated Receptacles - 3/4" Threaded Stud:



Color	Complete Cat. #	Complete Cat. #	
Black	E1016-1600	E1016-1631	
Red	E1016-1602	E1016-1633	
Green	E1016-1604	E1016-1635	
White	E1016-1605	E1016-1636	
Blue	E1016-1612	E1016-1643	
Brown	E1016-1619	E1016-1687	
Orange	E1016-1603	E1016-1634	
Yellow	E1016-1601	E1016-1632	

E1016-1600 3/4"

Stud size: 1/2" - 13; maximum torque: 40 ft.-lbs.

To order single packaged products, add a "K" suffix to the complete catalog number.

11P Cam-Lok™ J Series E1016 Receptacles

Cable Size #2 AWG - 4 / 0 600V AC/DC Up to 400A Continuous

J Series E1016, Elastomeric, Busbar Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Receptacles are safety insulated for direct mounting to steel panels

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Insulated Receptacles - Single Hole Busbar:



E1016-1700B

Color	Male Complete Cat. #	Female Complete Cat. #	
Black	E1016-1700B	E1016-1725B	
Red	E1016-1702B	E1016-1727B	
Green	E1016-1704B	E1016-1729B	
White	E1016-1705B	E1016-1730B	
Blue	E1016-1706B	E1016-1731B	
Brown	E1016-1707B	E1016-1732B	
Orange	E1016-1703B	E1016-1728B	
Yellow	E1016-1701B	E1016-1726B	

Ordering Information - Insulated Receptacles - Double Hole Busbar:



E1016-1	704BB

Color	Male Complete Cat. #	Female Complete Cat. #
Black	E1016-1700BB	E1016-1725BB
Red	E1016-1702BB	E1016-1727BB
Green	E1016-1704BB	E1016-1729BB
White	E1016-1705BB	E1016-1730BB
Blue	E1016-1706BB	E1016-1731BB
Brown	E1016-1707BB	E1016-1732BB
Orange	E1016-1703BB	E1016-1728BB
Yellow	E1016-1701BB	E1016-1726BB

To order single packaged products, add a "K" suffix to the complete catalog number.

Cable Size #2 AWG - 4 / 0 600V AC/DC, Up to 400A Continuous 480V AC/DC, Up to 315A Continuous

J Series E1016, Elastomeric, Double Set Screw/Interlock Switch

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric body molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Receptacles are safety insulated for direct mounting to steel panels

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Insulated Receptacles - Double Set Screw Tightening Torque:

Cable	Torque (Lbs.)	
#2 - #1	100	_
1/0-2/0	120	
3/0-4/0	220	

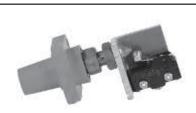
Ordering Information - Insulated Receptacles - Double Set Screw:



Color	Male Complete Cat. #	Female Complete Cat. #	
Black	E1016-1700	E1016-1725	
Red	E1016-1702	E1016-1727	
Green	E1016-1704	E1016-1729	
White	E1016-1705	E1016-1730	
Blue	E1016-1706	E1016-1731	
Brown	E1016-1707	E1016-1732	
Orange	E1016-1703	E1016-1728	
Yellow	E1016-1701	E1016-1726	

E1016-1706

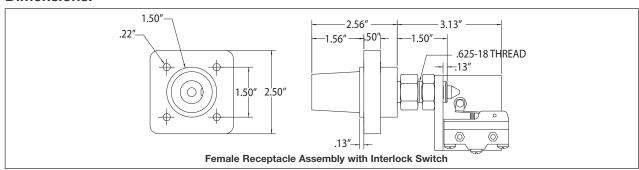
Ordering Information - Insulated Receptacles with Interlock Switch:



Color	Female Complete Cat. #
Black	E1016-2267
Red	E1016-2269
Green	E1016-2271
White	E1016-2272
Blue	E1016-2294
Brown	E1016-2295
Orange	E1016-2270
Yellow	E1016-2268

E1016-2269

To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ Receptacle Covers

Cable Size 350-500 MCM 600V AC/DC Up to 545A Continuous

J Series E1015/E1016, NEMA 3R Receptacle Covers

Features:

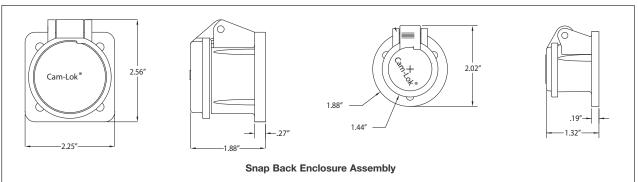
- Molded from colorfast material, color-coded for easy phase identification
- Mounts directly to new or existing receptacles
- Provides NEMA 3R protection
- High impact-resistant thermoplastic covers and bodies
- Stainless steel hardware
- Complete color offering

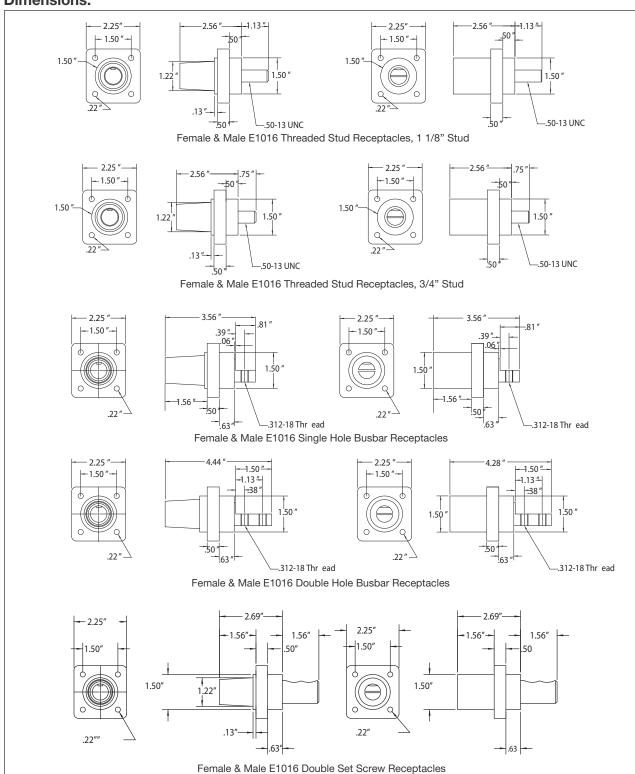
Material Characteristics:

- Body thermoplastic
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - NEMA 3R Receptacle Covers:

Color	E1015 Series Cat. #	E1016 Series Cat. #	
Black	E1015SC-32	E1016SC-32	_
Red	E1015SC-36	E1016SC-36	
Green	E1015SC-35	E1016SC-35	
White	E1015SC-38	E1016SC-38	
Blue	E1015SC-34	E1016SC-34	
Yellow	E1015SC-37	E1016SC-37	
Orange	E1015SC-39	E1016SC-39	
Brown	E1015SC-31	E1016SC-31	
Gray	E1015SC-33	E1016SC-33	





11P Cam-Lok™ J Series E1016 Accessories

600V AC/DC Up to 400A Continuous

J Series E1016, Elastomeric

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- $\sqrt{3}$ of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body TPE
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Three-Way Lay Down "T" Connectors:



	Paralleling "T"	Tapping "T"				
	M-M-F	M-F-F	M-F-M	M-M-M	F-F-F	F-F-M
Color	Cat. #	Cat. #	Cat. #	Cat. #	Cat. #	Cat. #
Black	E1016-2324	E1016-2312	E1016-2318	E1016-2300	E1016-2306	E1016-2330
Red	E1016-2326	E1016-2314	E1016-2320	E1016-2302	E1016-2308	E1016-2332
Green	E1016-2328	E1016-2316	E1016-2322	E1016-2304	E1016-2310	E1016-2334
White	E1016-2329	E1016-2317	E1016-2323	E1016-2305	E1016-2311	E1016-2335
Blue	E1016-2348	E1016-2350	E1016-2359	E1016-2351	E1016-2349	E1016-2360
Brown	E1016-2371	E1016-2395	E1016-2372	E1016-2373	E1016-2374	E1016-2375
Orange	E1016-2327	E1016-2315	E1016-2321	E1016-2303	E1016-2309	E1016-2333
Yellow	E1016-2325	E1016-2313	E1016-2319	E1016-2301	E1016-2307	E1016-2331

E1016-2324

Ordering Information - Protective Caps with Lanyards (Not UL Listed):



Color	Male Cap Cat. #	Female Cap Cat. #
Black	A100601-17	A100602-17
Red	A100601-19	A100602-19
Green	A100601-21	A100602-21
White	A100601-22	A100602-22
Blue	A100601-24	A100602-24
Brown	A100601-23	A100602-23
Orange	A100601-20	A100602-20
Yellow	A100601-18	A100602-18
Plated	A100895-1	SNAP BACK METAL COVER (Not NEMA 3R)
Aluminum	100444	SPACER

A100601-17

To order single packaged products, add a "K" suffix to the complete catalog number.

600V AC/DC **Up to 400A Continuous**

J Series E1016, Elastomeric

Features:

- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- · Watertight elastomeric body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

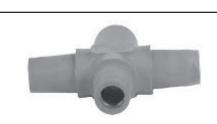
Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body TPE
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Three-Fer Tapping Tees:



Color	Cat. #	Cat. #	Cat. #
Black	E1016-9500	E1016-9510	E1016-9580
Red	E1016-9502	E1016-9512	E1016-9600
Green	E1016-9504	E1016-9514	E1016-9620
White	E1016-9505	E1016-9515	E1016-9630
Blue	E1016-9506	E1016-9516	E1016-9640
Brown	E1016-9507	E1016-9517	E1016-9650
Orange	E1016-9503	E1016-9513	E1016-9610
Yellow	E1016-9501	E1016-9511	E1016-9590

E1016-9502

Ordering Information - Adapters:

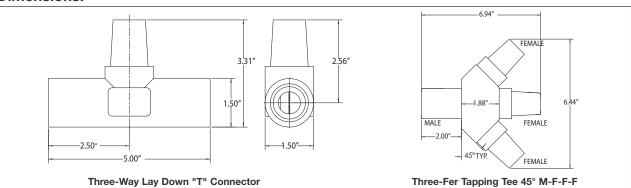


Color	Double Female Adapter Cat. #	Double Male Adapter Cat. #
Black	E1016-2352	E1016-2382
Red	E1016-2354	E1016-2384
Green	E1016-2356	E1016-2386
White	E1016-2357	E1016-2387
Blue	E1016-2358	E1016-2388
Brown	E1016-2397	E1016-2389
Orange	E1016-2355	E1016-2385
Yellow	E1016-2353	E1016-2383

E1016-9510

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Crouse-Hinds by **F**:**T·N**

11P Cam-Lok™ J Series E1016 Terminals

Cable Size #2 AWG - 4 / 0 600V AC/DC Up to 400A Continuous

J Series E1016, Elastomeric or Rubber Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Product body molded from colorfast material, color-coded for easy phase identification; safety terminals are watertight elastomeric; terminals are rubber

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body TPE or rubber
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Female Terminal Connectors:



Cable Size	Color	Angle Style Complete Cat. #	Offset Style Complete Cat. #
#2 - 4 / 0	Black	E1016-575	E1016-625
#2 - 4 / 0	Red	E1016-577	E1016-627
#2 - 4 / 0	Green	E1016-579	E1016-629
#2 - 4 / 0	White	E1016-580	E1016-630
#2 - 4 / 0	Blue	E1016-587	E1016-638
#2 - 4 / 0	Brown	E1016-590	E1016-639
#2 - 4 / 0	Orange	E1016-578	E1016-628
#2 - 4 / 0	Yellow	E1016-576	E1016-626

E1016-627

Hole size: 1/2"

Ordering Information - Female Safety Terminals:



Cable Size	Color	Complete Cat. #	Complete Cat. #
#2 - 4 / 0	Black	E1016-813	E1016-801
#2 - 4 / 0	Red	E1016-815	E1016-803
#2 - 4 / 0	Green	E1016-817	E1016-805
#2 - 4 / 0	White	E1016-818	E1016-806
#2 - 4 / 0	Blue	E1016-819	E1016-807
#2 - 4 / 0	Brown	E1016-820	E1016-808
#2 - 4 / 0	Orange	E1016-816	E1016-804
#2 - 4 / 0	Yellow	E1016-814	E1016-802

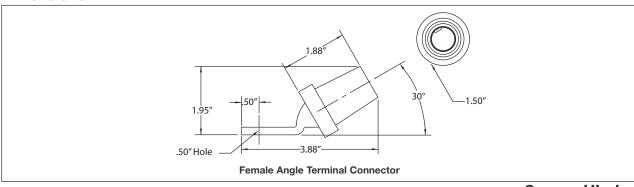
Round

F1016-817

Tap hole: 1/2"-13

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Rectangular

J Series E1017, Rubber, Non-vulcanized, Double Set Screw Connection

- Features:
- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber insulators molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact
- Accepts a wide range of cable sizes

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Double Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Cat. #	Contact Only Cat. #	Cat. #
350-500 MCM	Black	E1017-350	A200612-1	A200056-1
350-500 MCM	Red	E1017-352	A200612-1	A200056-3
350-500 MCM	Green	E1017-354	A200612-1	A200056-5
350-500 MCM	White	E1017-355	A200612-1	A200056-6
350-500 MCM	Blue	E1017-356	A200612-1	A200056-37
350-500 MCM	Brown	E1017-357	A200612-1	A200056-42
350-500 MCM	Orange	E1017-353	A200612-1	A200056-4
350-500 MCM	Yellow	E1017-351	A200612-1	A200056-2

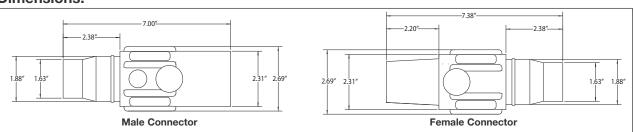
Ordering Information - Double Set Screw Non-vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
350-500 MCM	Black	E1017-375	A200614-2	A200040-1
350-500 MCM	Red	E1017-377	A200614-2	A200040-3
350-500 MCM	Green	E1017-379	A200614-2	A200040-5
350-500 MCM	White	E1017-380	A200614-2	A200040-6
350-500 MCM	Blue	E1017-381	A200614-2	A200040-39
350-500 MCM	Brown	E1017-382	A200614-2	A200040-37
350-500 MCM	Orange	E1017-378	A200614-2	A200040-4
350-500 MCM	Yellow	F1017-376	Δ200614-2	A200040-2

E1017-377

To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ J Series E1017 Vulcanized Plugs Cable Size 250 MCM

600V AC/DC Up to 340A Continuous

J Series E1017, Rubber, Vulcanized, Crimp Connection

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber insulators molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs (Not UL Listed):



Cable Size	Color	Complete Cat. #	Cat. #	Cat. #
250 MCM	Black	E1017-94	A200028-13	A200056-1
250 MCM	Red	E1017-92	A200028-13	A200056-3
250 MCM	Green	E1017-93	A200028-13	A200056-5
250 MCM	White	E1017-95	A200028-13	A200056-6
250 MCM	Blue	E1017-96	A200028-13	A200056-37
250 MCM	Brown	E1017-108	A200028-13	A200056-42
250 MCM	Orange	E1017-109	A200028-13	A200056-4
250 MCM	Yellow	E1017-110	A200028-13	A200056-2

E1017-108

Ordering Information - Crimp Vulcanized Female Plugs (Not UL Listed):

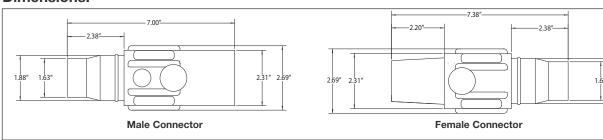


Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
250 MCM	Black	E1017-90	A200027-5	A200040-1
250 MCM	Red	E1017-88	A200027-5	A200040-3
250 MCM	Green	E1017-89	A200027-5	A200040-5
250 MCM	White	E1017-91	A200027-5	A200040-6
250 MCM	Blue	E1017-98	A200027-5	A200040-39
250 MCM	Brown	E1017-111	A200027-5	A200040-37
250 MCM	Orange	E1017-112	A200027-5	A200040-4
250 MCM	Yellow	E1017-113	A200027-5	A200040-2

E1017-113

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Cam-Lok™ J Series E1017 Vulcanized Plugs Cable Size 350 MCM 600V AC/DC

J Series E1017, Rubber, Vulcanized, Crimp Connection

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear

Up to 445A Continuous

- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber insulators molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498. File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Contact Only

Inculator Only

Material Characteristics:

- Insulator rubber
- · Environmental rating: NEMA 3R

Complete

• Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs:



Cable Size	Color	Cat. #	Cat. #	Cat. #
350 MCM	Black	E1017-1	A200028-1	A200056-1
350 MCM	Red	E1017-3	A200028-1	A200056-3
350 MCM	Green	E1017-5	A200028-1	A200056-5
350 MCM	White	E1017-6	A200028-1	A200056-6
350 MCM	Blue	E1017-26	A200028-1	A200056-37
350 MCM	Brown	E1017-31	A200028-1	A200056-42
350 MCM	Orange	E1017-4	A200028-1	A200056-4
350 MCM	Yellow	E1017-2	A200028-1	A200056-2

E1017-26

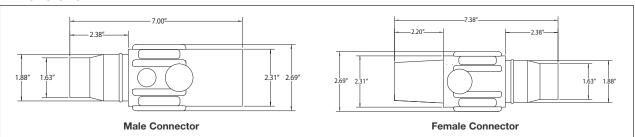
Ordering Information - Crimp Vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Cat. #
350 MCM	Black	E1017-50	A200027-5	A200040-1
350 MCM	Red	E1017-52	A200027-5	A200040-3
350 MCM	Green	E1017-54	A200027-5	A200040-5
350 MCM	White	E1017-55	A200027-5	A200040-6
350 MCM	Blue	E1017-74	A200027-5	A200040-39
350 MCM	Brown	E1017-79	A200027-5	A200040-37
350 MCM	Orange	E1017-53	A200027-5	A200040-4
350 MCM	Yellow	E1017-51	A200027-5	A200040-2

E1017-79

To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ J Series E1017 Vulcanized Plugs Cable Size 500 MCM 600V AC/DC

Up to 545A Continuous

J Series E1017, Rubber, Vulcanized, Crimp Connection

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber insulators molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
500 MCM	Black	E1017-7	A200028-2	A200056-1
500 MCM	Red	E1017-9	A200028-2	A200056-3
500 MCM	Green	E1017-11	A200028-2	A200056-5
500 MCM	White	E1017-12	A200028-2	A200056-6
500 MCM	Blue	E1017-27	A200028-2	A200056-37
500 MCM	Brown	E1017-32	A200028-2	A200056-42
500 MCM	Orange	E1017-10	A200028-2	A200056-4
500 MCM	Yellow	E1017-8	A200028-2	A200056-2

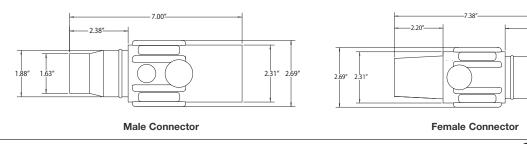
Ordering Information - Crimp Vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
500 MCM	Black	E1017-56	A200027-6	A200040-1
500 MCM	Red	E1017-58	A200027-6	A200040-3
500 MCM	Green	E1017-60	A200027-6	A200040-5
500 MCM	White	E1017-61	A200027-6	A200040-6
500 MCM	Blue	E1017-75	A200027-6	A200040-39
500 MCM	Brown	E1017-80	A200027-6	A200040-37
500 MCM	Orange	E1017-59	A200027-6	A200040-4
500 MCM	Yellow	E1017-57	A200027-6	A200040-2

E1017-61

To order single packaged products, add a "K" suffix to the complete catalog number.



J Series E1017, Rubber, Vulcanized, Crimp Connection

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber insulators molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Cat. #
750 MCM	Black	E1017-13	A200028-3	A200056-7
750 MCM	Red	E1017-15	A200028-3	A200056-9
750 MCM	Green	E1017-17	A200028-3	A200056-11
750 MCM	White	E1017-18	A200028-3	A200056-12
750 MCM	Blue	E1017-28	A200028-3	A200056-41
750 MCM	Brown	E1017-33	A200028-3	A200056-43
750 MCM	Orange	E1017-16	A200028-3	A200056-10
750 MCM	Yellow	E1017-14	A200028-3	A200056-8

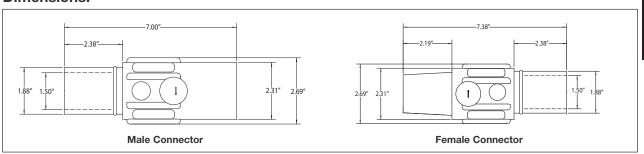
Ordering Information - Crimp Vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Cat. #	Cat. #
750 MCM	Black	E1017-62	A200027-7	A200040-7
750 MCM	Red	E1017-64	A200027-7	A200040-9
750 MCM	Green	E1017-66	A200027-7	A200040-11
750 MCM	White	E1017-67	A200027-7	A200040-12
750 MCM	Blue	E1017-76	A200027-7	A200040-40
750 MCM	Brown	E1017-81	A200027-7	A200040-38
750 MCM	Orange	E1017-65	A200027-7	A200040-10
750 MCM	Yellow	E1017-63	A200027-7	A200040-8

E1017-76

To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ J Series E1017 Vulcanized Plugs Cable Size 800 MCM 600V AC/DC

Up to 690A Continuous

J Series E1017, Rubber, Vulcanized, Crimp Connection

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber insulators molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Integrated strain relief system features a retaining wire that prevents cable jacket pull-away and bare conductor exposure
- Plugs feature a high strength, molded-in-place locking ring to capture and secure the insulator to the contact

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- · Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Crimp Vulcanized Male Plugs (Not UL Listed):



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Cat. #
800 MCM	Black	E1017-19	A200028-4	A200056-7
800 MCM	Red	E1017-21	A200028-4	A200056-9
800 MCM	Green	E1017-23	A200028-4	A200056-11
800 MCM	White	E1017-24	A200028-4	A200056-12
800 MCM	Blue	E1017-29	A200028-4	A200056-41
800 MCM	Brown	E1017-34	A200028-4	A200056-43
800 MCM	Orange	E1017-22	A200028-4	A200056-10
800 MCM	Yellow	E1017-20	A200028-4	A200056-8

E1017-24

Ordering Information - Crimp Vulcanized Female Plugs (Not UL Listed):

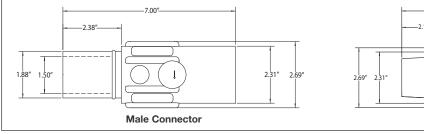


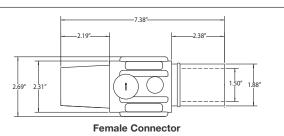
Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
800 MCM	Black	E1017-68	A200027-8	A200040-7
800 MCM	Red	E1017-70	A200027-8	A200040-9
800 MCM	Green	E1017-72	A200027-8	A200040-11
800 MCM	White	E1017-73	A200027-8	A200040-12
800 MCM	Blue	E1017-77	A200027-8	A200040-40
800 MCM	Brown	E1017-82	A200027-8	A200040-38
800 MCM	Orange	E1017-71	A200027-8	A200040-10
800 MCM	Yellow	E1017-69	A200027-8	A200040-8

E1017-71

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:





30° Complete

30° Complete

J Series E1017, Rubber, Threaded Stud Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning of contacts
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Receptacles are safety insulated for direct mounting to steel panels
- Accepts a wide range of cable sizes

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Threaded Male Receptacles:



Cable Size	Color	Cat. #	Cat. #
350-750 MCM	Black	E1017-1600	E1017-1601
350-750 MCM	Red	E1017-1604	E1017-1605
350-750 MCM	Green	E1017-1608	E1017-1609
350-750 MCM	White	E1017-1610	E1017-1611
350-750 MCM	Blue	E1017-1612	E1017-1613
350-750 MCM	Brown	E1017-1614	E1017-1615
350-750 MCM	Orange	E1017-1606	E1017-1607
350-750 MCM	Yellow	E1017-1602	E1017-1603

E1017-1604

Ordering Information - Threaded Female Receptacles:



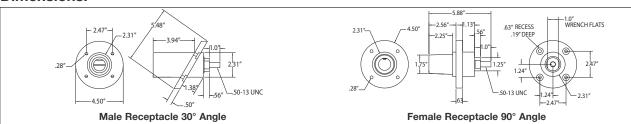
Cable Size	Color	Cat. #	Cat. #
350-750 MCM	Black	E1017-1625	E1017-1626
350-750 MCM	Red	E1017-1629	E1017-1630
350-750 MCM	Green	E1017-1633	E1017-1634
350-750 MCM	White	E1017-1635	E1017-1636
350-750 MCM	Blue	E1017-1637	E1017-1638
350-750 MCM	Brown	E1017-1641	E1017-1642
350-750 MCM	Orange	E1017-1631	E1017-1632
350-750 MCM	Yellow	E1017-1627	E1017-1628

90° Complete

E1017-1637

Stud size: 1/2"-13; maximum torque: 40 ft.-lbs.

To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ J Series E1017 Receptacles and Terminals

Cable Size 350-750 MCM 600V AC/DC Up to 690A Continuous

J Series E1017, Receptacles and Terminal Connectors

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- · Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight rubber body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- · Accepts a wide range of cable sizes

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator rubber
- Environmental rating: NEMA 3R

Style

• Temperature rating: -40°C to 105°C

Ordering Information - Female Receptacles with Interlock Switch (Not UL Listed):

Coble Cine



Cable Size	Color
350-750 MCM	Black
350-750 MCM	Red
350-750 MCM	Green
350-750 MCM	White
350-750 MCM	Blue
350-750 MCM	Brown
350-750 MCM	Orange
350-750 MCM	Yellow

(NOT OF FISIER).			
	90° Complete Cat. #	30° Complete Cat. #	
	E1017-509	E1017-501	
	E1017-511	E1017-503	
	E1017-513	E1017-505	
	E1017-514	E1017-506	
	E1017-515	E1017-507	
	E1017-516	E1017-508	
	E1017-512	E1017-504	
	E1017-510	E1017-502	

E1017-515

Ordering Information - Female Terminals:



Color	Angle Style Complete Cat. #	Offset Style Complete Cat. #	
Black	E1017-575	E1017-625	
Red	E1017-577	E1017-627	
Green	E1017-579	E1017-629	
White	E1017-580	E1017-630	
Blue	E1017-581	E1017-631	
Brown	E1017-582	E1017-632	
Orange	E1017-578	E1017-628	
Yellow	E1017-576	E1017-626	

With Interlock Switch 480 Volts Max.

E1017-575

To order single packaged products, add a "K" suffix to the complete catalog number.

J Series E1017, Rubber

Features:

- Resiliant rubber body provides superior protection against elements
- Molded from colorfast material, color-coded for easy phase identification
- Attaches directly to new or existing plugs and receptacles
- Provides NEMA 3R protection
- Complete color offering
- Lanyard provided to prevent loss

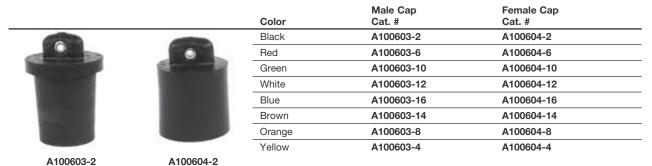
Testing and Code Compliance:

- Listed to UL498. File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

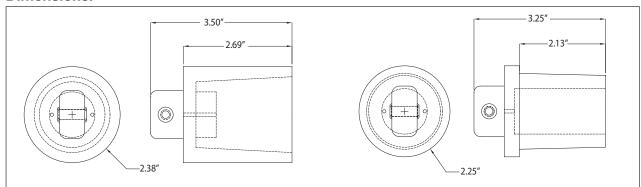
Material Characteristics:

- Body rubber
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Protective Caps (Not UL Listed):



To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ Standard Series E-Z1018 Plugs

Cable Size #2 AWG - 2 / 0 600V AC/DC Up to 300A Continuous

Standard Series E-Z1018, Elastomeric, Non-vulcanized, Double Set Screw Connection Features: Testing and Code Compliance:

- E-Z assembly and disassembly
- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- · Locked contacts will withstand a pulling force of 1,000 lbs.
- V_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- Accepts a wide range of cable sizes

CSA certified to C22.2 No. 182.3-M1987. File No. LR13963

Material Characteristics:

- Insulator TPE
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Double Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - 2 / 0	Black	E-Z1018-8350	A200630-1	E-Z200071-19
#2 - 2 / 0	Red	E-Z1018-8352	A200630-1	E-Z200071-21
#2 - 2 / 0	Green	E-Z1018-8354	A200630-1	E-Z200071-23
#2 - 2 / 0	White	E-Z1018-8355	A200630-1	E-Z200071-24
#2 - 2 / 0	Blue	E-Z1018-8356	A200630-1	E-Z200071-37
#2 - 2 / 0	Brown	E-Z1018-8357	A200630-1	E-Z200071-39
#2 - 2 / 0	Orange	E-Z1018-8353	A200630-1	E-Z200071-22
#2 - 2 / 0	Yellow	E-Z1018-8351	A200630-1	E-Z200071-20

E-Z1018-8354

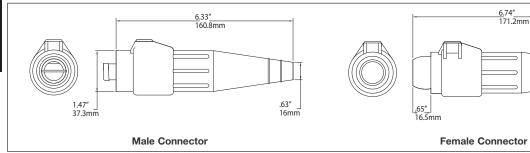
Ordering Information - Double Set Screw Non-vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
#2 - 2 / 0	Black	E-Z1018-8375	A200640-4	E-Z200072-19
#2 - 2 / 0	Red	E-Z1018-8377	A200640-4	E-Z200072-21
#2 - 2 / 0	Green	E-Z1018-8379	A200640-4	E-Z200072-23
#2 - 2 / 0	White	E-Z1018-8380	A200640-4	E-Z200072-24
#2 - 2 / 0	Blue	E-Z1018-8381	A200640-4	E-Z200072-37
#2 - 2 / 0	Brown	E-Z1018-8382	A200640-4	E-Z200072-39
#2 - 2 / 0	Orange	E-Z1018-8378	A200640-4	E-Z200072-22
#2 - 2 / 0	Yellow	E-Z1018-8376	A200640-4	E-Z200072-20

E-Z1018-8381

To order single packaged products, add a "K" suffix to the complete catalog number.



Standard Series E-Z1018, Elastomeric, Non-vulcanized, Double Set Screw Connection Features: Testing and Code Compliance:

- E-Z assembly and disassembly
- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- γ_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric insulators molded from colorfast material, color-coded for easy phase identification
- · Accepts a wide range of cable sizes

CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Double Set Screw Non-vulcanized Male Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
2/0-4/0	Black	E-Z1018-8362	A200639-1	E-Z200071-13
2/0-4/0	Red	E-Z1018-8364	A200639-1	E-Z200071-15
2/0-4/0	Green	E-Z1018-8366	A200639-1	E-Z200071-17
2/0-4/0	White	E-Z1018-8367	A200639-1	E-Z200071-18
2/0-4/0	Blue	E-Z1018-8368	A200639-1	E-Z200071-38
2/0-4/0	Brown	E-Z1018-8369	A200639-1	E-Z200071-40
2/0-4/0	Orange	E-Z1018-8365	A200639-1	E-Z200071-16
2/0-4/0	Yellow	E-Z1018-8363	A200639-1	E-Z200071-14

E-Z1018-8364

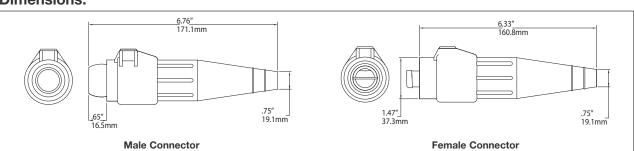
Ordering Information - Double Set Screw Non-vulcanized Female Plugs:



Cable Size	Color	Complete Cat. #	Contact Only Cat. #	Insulator Only Cat. #
2/0-4/0	Black	E-Z1018-8387	A200641-2	E-Z200072-13
2/0-4/0	Red	E-Z1018-8389	A200641-2	E-Z200072-15
2/0-4/0	Green	E-Z1018-8391	A200641-2	E-Z200072-17
2/0-4/0	White	E-Z1018-8392	A200641-2	E-Z200072-18
2/0-4/0	Blue	E-Z1018-8393	A200641-2	E-Z200072-38
2/0-4/0	Brown	E-Z1018-8394	A200641-2	E-Z200072-40
2/0-4/0	Orange	E-Z1018-8390	A200641-2	E-Z200072-16
2/0-4/0	Yellow	E-Z1018-8388	A200641-2	E-Z200072-14

E-Z1018-8390

To order single packaged products, add a "K" suffix to the complete catalog number.



11P Cam-Lok™ Standard Series E1018 Receptacles and Accessories

Cable Size #2 AWG - 4 / 0 600V AC/DC Up to 400A Continuous

Standard Series E1018, Elastomeric, Double Set Screw

Features:

- Double cam principle provides a positive, vibration-proof connection
- · Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- · Locked contacts will withstand a pulling force of 1,000 lbs.
- V_3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- Receptacles are safety insulated for direct mounting to steel panels

Testing and Code Compliance:

CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Male Complete

Insulated Receptacles - Double Set Screw Tightening Torque:

Cable	Torque (Lbs.)
#2 - #1	100
1/0-2/0	120
3/0-4/0	220

Female Complete

Ordering Information - Insulated Receptacles - Double Set Screw:





Color	Cat. #	Cat. #
Black	E1018-1700	E1018-1725
Red	E1018-1702	E1018-1727
Green	E1018-1704	E1018-1729
White	E1018-1705	E1018-1730
Blue	E1018-1706	E1018-1731
Brown	E1018-1707	E1018-1732
Orange	E1018-1703	E1018-1728
Yellow	E1018-1701	E1018-1726

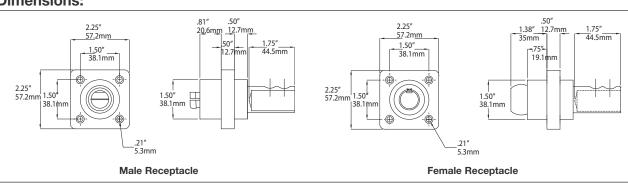
E1018-1700

E1018-1725

Ordering Information - Three-Fer Tapping Tee 45° M-F-F-F:

Color	Cat. #
Black	E1018-9510
Red	E1018-9512
Green	E1018-9514
White	E1018-9515
Blue	E1018-9516
Brown	E1018-9517
Orange	E1018-9513
Yellow	E1018-9511

To order single packaged products, add a "K" suffix to the complete catalog number.



Cable Size #2 AWG - 4 / 0 600V AC/DC **Up to 400A Continuous**

Standard Series E1018, Elastomeric, Threaded Stud

Features:

- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- · Watertight elastomeric body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety
- · Receptacles are safety insulated for direct mounting to steel panels

Testing and Code Compliance:

CSA certified to C22.2 No. 182.3-M1987. File No. LR13963

Material Characteristics:

- Insulator TPE
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Insulated Receptacles 11/8" (28.6mm) Threaded Stud:

Color	Male Complete Cat. #	Female Complete Cat. #	
Black	E1018-1600S	E1018-1631S	
Red	E1018-1602S	E1018-1633S	
Green	E1018-1604S	E1018-1635S	
White	E1018-1605S	E1018-1636S	
Blue	E1018-1606S	E1018-1637S	
Brown	E1018-1607S	E1018-1638S	
Orange	E1018-1603S	E1018-1634S	
Yellow	E1018-1601S	E1018-1632S	

Stud size: 1/2"-13; maximum torque: 40 ft.-lbs.

Ordering Information - Insulated Receptacles 3/4" (19.1mm) Threaded Stud:





Color	Male Complete Cat. #	Female Complete Cat. #
Black	E1018-1600	E1018-1631
Red	E1018-1602	E1018-1633
Green	E1018-1604	E1018-1635
White	E1018-1605	E1018-1636
Blue	E1018-1606	E1018-1637
Brown	E1018-1607	E1018-1638
Orange	E1018-1603	E1018-1634
Yellow	E1018-1601	E1018-1632

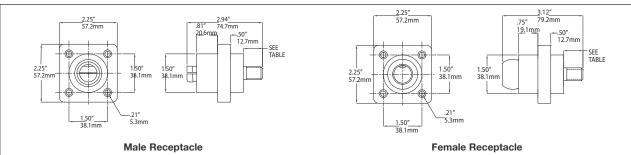
E1018-1600

E1018-1631

Stud size: 1/2"-13; maximum torque: 40 ft.-lbs.

To order single packaged products, add a "K" suffix to the complete catalog number.

Dimensions:



Crouse-Hinds by **F**:**T·N**

11P Cam-Lok™ Standard Series E1018 Terminals

600V AC/DC Up to 400A Continuous

Standard Series E1018, Rubber Terminal Features:

- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- 1/3 of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight body molded from colorfast material, color-coded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

• CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Body rubber
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Female Terminal Connectors:

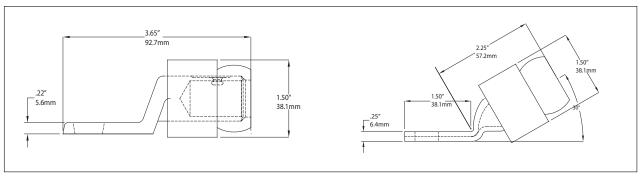


E1018-575 E1018-625

Color	Angle Style Complete Cat. #	Offset Style Complete Cat. #
Black	E1018-575	E1018-625
Red	E1018-577	E1018-627
Green	E1018-579	E1018-629
White	E1018-580	E1018-630
Blue	E1018-587	E1018-638
Brown	E1018-590	E1018-639
Orange	E1018-578	E1018-628
Yellow	E1018-576	E1018-626

Stud hole: 21/32" (16.7mm)

To order single packaged products, add a "K" suffix to the complete catalog number.



Cable Size #2 AWG - 4 / 0 600V AC/DC Up to 400A Continuous

Standard Series E1018, Elastomeric

Features:

- Double cam principle provides a positive, vibration-proof connection
- Self-compensating for wear
- · No moving contact surfaces, eliminating arcing or burning
- Superior electro-mechanical connections
- Locked contacts will withstand a pulling force of 1,000 lbs.
- $\sqrt{3}$ of a turn assures a high pressure contact approaching 600 lbs. per sq. in., providing minimum resistance
- Contacts carefully machined from a high conductivity brass to a smooth sliding fit and easy locking action
- Watertight elastomeric body molded from colorfast material, colorcoded for easy phase identification
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

• CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- Environmental rating: NEMA 3R
- Temperature rating: -40°C to 105°C

Ordering Information - Three-Way Lay Down "T" Connectors:



Color	Paralleling "T" M-M-F Cat. #	Tapping "T" M-F-F Cat. #
Black	E1018-2324	E1018-2312
Red	E1018-2326	E1018-2314
Green	E1018-2328	E1018-2316
White	E1018-2329	E1018-2317
Blue	E1018-2348	E1018-2350
Brown	E1018-2396	E1018-2395
Orange	E1018-2327	E1018-2315
Yellow	E1018-2325	E1018-2313

E1018-2324

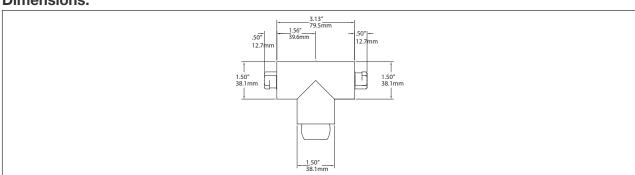
Ordering Information - Protective Caps:



Color	Male Cap Cat. #	Female Cap Cat. #
Black	A100435-1	A100433-1
Red	A100435-5	A100433-5
Green	A100435-9	A100433-9
White	A100435-11	A100433-11
Blue	A100435-15	A100433-15
Brown	A100435-13	A100433-13
Orange	A100435-7	A100433-7
Yellow	A100435-3	A100433-3

A100435-1

To order single packaged products, add a "K" suffix to the complete catalog number.



Portable Vulcanizing Kits and Presses Ordering Information - Complete Vulcanizing Kits:

Cable Size	Cable O.D.	E1015 Series Cat. #	E1016 Series Cat. #	
#8	.440	A300120-1	-	
#6	.510	A300120-2	-	
#4	.570	A300120-3	-	
#2	.660	-	A300100-3	
#1	.740	-	A300100-4	
1/0	.770	-	A300100-5	
2/0	.820	-	A300100-6	
3 / 0	.870	-	A300100-7	
4 / 0	.930	-	A300100-8	

Kit contains: vulcanizing press, male and female COM-A-LONG, cable cutter, crimp press, and neoprene tape.

Ordering Information - Vulcanizing Presses Only:

Cable Size	Cable O.D.	E1015 Series Cat. #	E1016 Series Cat. #	E1017 Series Cat. #
#8	.440	A300121-1	-	-
#6	.510	A300100-2	-	-
#4	.570	A300100-3	-	-
#2	.660	-	A300103-3	-
#1	.740	-	A300103-4	-
1/0	.770	-	A300103-5	-
2/0	.820	-	A300103-6	-
3/0	.870	-	A300103-7	-
4/0	.930	-	A300103-8	-
350 MCM	1.150	-	-	A300106-1
500 MCM	1.310	-	-	A300106-2
750 MCM	1.580	_	-	A300106-3

Ordering Information - Plug Molding Bushings:

Cable Size	Nominal Cable O.D.	E1015 Series Cat. #	E1016 Series Cat. #	E1017 Series Cat. #
#8	.440	201015-3	-	-
#6	.510	201015-15	-	-
#4	.570	201015-18	-	-
#2	.660	-	200895-20	-
#1	.740	-	200895-21	-
1/0	.770	-	200895-22	-
2/0	.820	-	200895-23	-
3/0	.870	-	200895-24	-
4/0	.930	-	200895-17	-
350 MCM	1.150	-	-	200006-3
500 MCM	1.310	-	-	200006-6
750 MCM	1.580	-	-	200006-8

Molding Press and Accessories

Ordering Information - Molding Press Parts and Vulcanizing Accessories:

Cat. #	Description	Cat. #	Description
	All Mold Kits and Presses	100827-3	Mold Press Pilot Light - Red, Complete with Wired Socket
A400001	E1016/E0400 Assembly Tool	200704-2	Cartridge Heater - 350-750 MCM Molds
319735-1	Neoprene Vulcanizing Tape, 3/4" x 30" Roll	200704-3	Cartridge Heater - #2 - 4 / 0 Molds
100566-1	Mold Press Thermostat	A100072	Cable Cutter - #2 - 4 / 0 Cable
A100632	Tool for Removing Contacts from Insulators	A200020-3	COM-A-LONG for Pulling Male Contact in E1012, E1016, E1018, and E0400 Series
100826-3	Mold Press Power On/Off Switch	A200020-4	COM-A-LONG for Pulling Female Contact in E1012, E1016, E1018, and E0400 Series
A200020-1	COM-A-LONG for Pulling Male Contact in E1015 Series	A200020-5	COM-A-LONG for Pulling Male Contact in E1017 Series
A200020-2	COM-A-LONG for Pulling Female Contact in E1015 Series	A200020-6	COM-A-LONG for Pulling Female Contact in E1017 Series
		A101208	2 Oz. Tube Silicon Grease for Lubricating Synthetic

2 Oz. Tube Silicon Grease for Lubricating Synthetic Rubber Insulators

Ordering Information - E1015 and E1016 Series Crimping Nest and Presses:

Cable Size	Crimping Nests Cat. #	Crimping Presses Cat. #
#8	100514-1	A200914-1
#4-6	100514-2	A200914-2
#1-2	100514-3	A200914-3
1/0-2/0	100514-4	A200914-4
3/0	100514-5	A200914-5
4 / 0	100514-6	A200914-6
Gauge block for calibrating crimper: #100891.		

Ordering Information - Other Accessories:

Connector Series	Set Screw Cat. #	Copper Shim Cat. #	Quantity	Pressure Pad Cat. #	Retaining Wire Cat. #
E1010 All	100012-25	A100400-1	25	N/A	100573-1
E1012-61 and 62	100012-7	A100400-3	20	100575	100573-1
E1012 Single Set Screw	100012-18	A100400-3	20	N/A	100573-1
E1016 Single Set Screw	100012-18	A100400-3	20	N/A	100573-1
E1017 Double Set Screw	100012-5	A100400-9	10	N/A	100573-2
E1018 Single Set Screw	100012-18	A100400-3	20	N/A	100573-1
E1012 Double Set Screw	100012-18	A100400-4	20	101214	100573-1
E1016 Double Set Screw	100012-18	A100400-4	20	101214	100573-1

11P Posi-Lok™ Power Distribution Panels

Product Selector Guide

Selecting the correct Posi-Lok[™] product series is easy Just identify the cable size, voltage, amperage, and approval requirements. Posi-Lok[™]

Series	Ampacity Rating (Max.)	Voltage Rating (Max.)	Cable Sizes	Approvals
E0200	200	600	#2 - 2 / 0	UL/CSA
E0400	400	600	#2 - 4 / 0	UL/CSA

Posi-Lok[™] Distribution Panels use lightweight, single conductor cables to provide the means for hurried personnel to quickly and safely connect and disconnect power systems without having to use any tools.

Applications:

- Posi-Lok™ Power Distribution Panels utilize single conductor cable that can be used to full amperage capability without the need to derate like multi-conductor solutions
- Ideal for disaster relief, temporary power, stand-by emergency power, and power distribution applications

Certifications and Compliances:

- UL Listed: E67181
- CSA certified: LR13963-48

Environmental Rating:

• NEMA 3

Features:

Standard Materials:

- Cable sizes: #2 4 / 0
- Insulator elastomeric
- · Contact copper

Electrical Ratings:

- 600 Volts
- 200 Amps continuous (E0200)
- 400 Amps continuous (E0400)

Temperature Ratings:

• -40°C to 105°C



Cut-away view of E0400 male plug

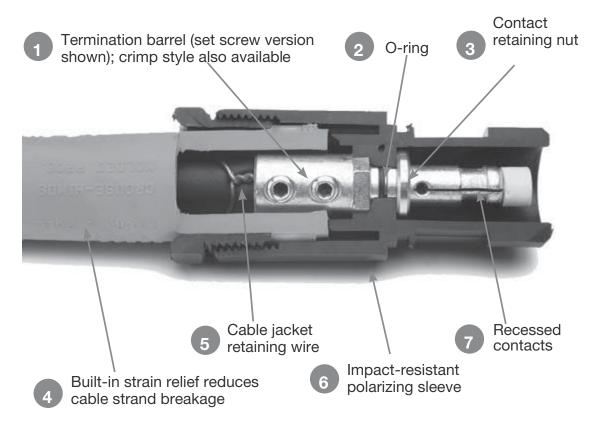
Now there's no need to haul around huge, multi-conductor cables. Posi-Lok™ Power Distribution Systems let you use lighter, single conductor cables rated at higher amperages.

Posi-Lok™ Plugs feature recessed electrical contacts that are protected by shatter-resistant insulators and impact-resistant molded sleeves.

More than 25 years of field testing has proven that the unique elastomeric tapered insulator allows maximum flexing with minimum breakage. There are no metal clamps or grommets to cause cable failure.

The same plugs that connect to panels also connect to each other so that you can use long runs of cable. Polarity is assured because each plug is uniquely keyed and color-coded for easy, positive connecting.





Cut-away view of E0200 male plug

Posi-Lok™ Plugs and Panels E0200 Series

Cable Size #2 AWG - 2 / 0 600V AC/DC **Up to 200A Continuous**

Posi-Lok™ E0200 Series Female Panels and Male Plugs

Features:

- Designed to meet Article 520-53 Section K and Article 530-22 Section A (NEC) standards
- Sequential interlock system requires the user to connect and disconnect each plug in sequence
- Polarized plugs and panels eliminate the possibility of cross-phasing
- Built-in strain relief reduces cable strain
- Proven Cam-Lok™ double cam principle provides a positive, vibration-proof connection
- · No moving contact surfaces, eliminating arcing or burning of contacts
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

• Insulator - TPE

Inculator

- · Polarizing shell thermoplastic
- Temperature rating: -40°C to 105°C







Male plug assembled length is 8-3/4"

Ordering Information - Female Panels:

Receptacles Per Panel	Cat. #	Cover Color Code
3	E0200-1685	GR, WH, BK
4	E0200-1686-NN	GR, BK, RD, BU
4	E0200-1696	GR, WH, BK, RD
4	E0200-1892-NN	GR, BRN, ORG, YEL
5	E0200-1687	GR, WH, BK, RD, BU
5	E0200-1890	GR, WH, BRN, ORG, YEL
6	E0200-1885	GR, WH, WH, BK, RD, BU
GR = Green: WH = White: F	RK = Black: RD = Red: BU	= Blue: BRN = Brown:

ORG = Orange; YEL = Yellow; NN = Panel without Neutral

Add "LS" suffix to end of catalog number to order panels with a limit switch. Available on last position only. Example: E0200-1687LS. Limit switch ratings are 5A, 250 VAC. Plugs must be ordered separately.

Ordering Information - Male Plugs:

		Complete	Contact Only	Insulator Polarizing Shell
Termination	Position	Cat. #	Cat. #	Cat. #
	Green	E0200-141	A201293-5	A201315-3
	White	E0200-142	A201293-5	A201315-2
	Black	E0200-143	A201293-5	A201315-1
Outine	Red	E0200-144	A201293-5	A201315-5
Crimp	Blue	E0200-145	A201293-5	A201315-4
	Brown	E0200-147	A201293-5	A201315-9
	Orange	E0200-148	A201293-5	A201315-10
	Yellow	E0200-149	A201293-5	A201315-8
	Green	E0200-181	A201293-1	A201315-3
	White	E0200-182	A201293-1	A201315-2
	Black	E0200-183	A201293-1	A201315-1
Double Set Screw	Red	E0200-184	A201293-1	A201315-5
Double Set Screw	Blue	E0200-185	A201293-1	A201315-4
	Brown	E0200-199	A201293-1	A201315-9
	Orange	E0200-195	A201293-1	A201315-10
	Yellow	E0200-192	A201293-1	A201315-8

Posi-Lok™ E0200 Series Male Panels and Female Plugs

Features:

- Designed to meet Article 520-53 Section K and Article 530-22 Section A (NEC) standards
- Sequential interlock system requires the user to connect and disconnect each plug in sequence
- Polarized plugs and panels eliminate the possibility of crossphasing
- Built-in strain relief reduces cable strain
- Proven Cam-Lok™ double cam principle provides a positive, vibration-proof connection
- · No moving contact surfaces, eliminating arcing or burning of contacts
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

• Insulator - TPE

Insulator

- Polarizing shell thermoplastic
- Temperature rating: -40°C to 105°C

Ordering Information - Male Panels:

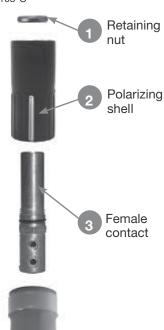
Receptacles		
Per Panel	Cat. #	Cover Color Code
3	E0200-1660	GR, WH, BK
4	E0200-1661-NN	GR, BK, RD, BU
4	E0200-1672	GR, WH, BK, RD
4	E0200-1893-NN	GR, BRN, ORG, YEL
5	E0200-1662	GR, WH, BK, RD, BU
5	E0200-1891	GR, WH, BRN, ORG, YEL
6	E0200-1860	GR, WH, WH, BK, RD, BU

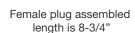
GR = Green; WH = White; BK = Black; RD = Red; BU = Blue; BRN = Brown; ORG = Orange; YEL = Yellow; NN = Panel without Neutral

Add "LS" suffix to end of catalog number to order panels with a limit switch. Available on last position only. Example: E0200-1662LS. Limit switch ratings are 5A, 250 VAC. Plugs must be ordered separately.

Ordering Information - Female Plugs:

Termination	Position	Complete Cat. #	Contact Only Cat. #	Polarizing Shell Cat. #
	Green	E0200-241	A201292-5	A201315-27
	White	E0200-242	A201292-5	A201315-26
	Black	E0200-243	A201292-5	A201315-25
Crimo	Red	E0200-244	A201292-5	A201315-29
Crimp	Blue	E0200-245	A201292-5	A201315-28
	Brown	E0200-247	A201292-5	A201315-33
	Orange	E0200-248	A201292-5	A201315-34
	Yellow	E0200-249	A201292-5	A201315-32
	Green	E0200-281	A201292-1	A201315-27
	White	E0200-282	A201292-1	A201315-26
	Black	E0200-283	A201292-1	A201315-25
Double Set Screw	Red	E0200-284	A201292-1	A201315-29
Double Set Screw	Blue	E0200-285	A201292-1	A201315-28
	Brown	E0200-288	A201292-1	A201315-33
	Orange	E0200-289	A201292-1	A201315-34
	Yellow	E0200-286	A201292-1	A201315-32

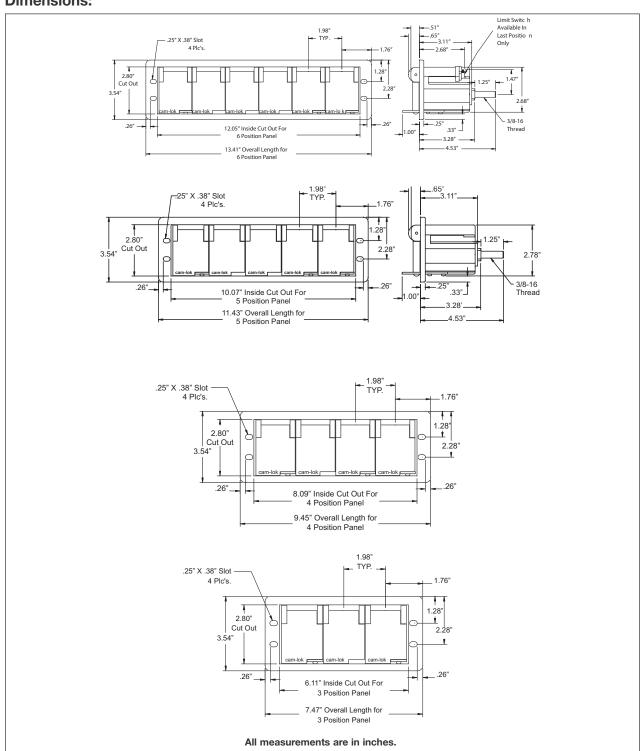




Female insulator

Posi-Lok™ Plugs and Panels E0200 Series

Cable Size #2 AWG - 2 / 0 600V AC/DC Up to 200A Continuous



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11P Posi-Lok™ Plugs and Panels E0200 Series

Cable Size #2 AWG - 2 / 0 600V AC/DC Up to 200A Continuous

Posi-Lok™ Plugs and Panels

- Ampacity is based on cable size or continuous rating, whichever is less
- Panel does not include enclosure or breakers; Posi-Lok™ system must be installed per local and national standards
- Panel receptacles have lock washers, flat washers, and jam nuts included
- Plugs and panels have silver-plated copper contacts

Posi-Lok™ E0200 Ratings:

Cable Size	Amperage Rating	Voltage Rating	
#2 AWG	190 Amps	600 VAC	
#1 AWG	200 Amps	600 VAC	
1/0	200 Amps	600 VAC	
2/0	200 Amps	600 VAC	

Posi-Lok™ E0400 Ratings:

Cable Size	Amperage Rating	Voltage Rating		
#2 AWG	190 Amps	600 VAC		
#1 AWG	220 Amps	600 VAC		
1/0	260 Amps	600 VAC		
2/0	300 Amps	600 VAC		
3 / 0	350 Amps	600 VAC		
4 / 0	400 Amps	600 VAC		

Posi-Lok™ Panels E0400 Series

Cable Size #2 AWG - 4 / 0 600V AC/DC Up to 400A Continuous

Posi-Lok™ E0400 Series Female Panels Features:

- Designed to meet Article 520-53 Section K and Article 530-22 Section A (NEC) standards
- Sequential interlock system requires the user to connect and disconnect each plug in sequence
- Polarized panels eliminate the possibility of cross-phasing
- Proven Cam-Lok™ double cam principle provides a positive, vibration-proof connection
- No moving contact surfaces, eliminating arcing or burning of contacts
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498. File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Panel steel
- Temperature rating: -40°C to 105°C

Ordering Information - Female Panels:



Receptacles Per Panel	Cat. #	Cover Color Code
3	E0400-1685	GR, WH, BK
4	E0400-1686-NN	GR, BK, RD, BU
4	E0400-1696	GR, WH, BK, RD
4	E0400-1883-NN	GR, BRN, ORG, YEL
5	E0400-1687	GR, WH, BK, RD, BU
5	E0400-1702	GR, WH, BRN, ORG, YEL
6	E0400-1885	GR, WH, WH, BK, RD, BU

GR = Green; WH = White; BK = Black; RD = Red; BU = Blue; BRN = Brown; ORG = Orange; YEL = Yellow; NN = Panel without Neutral

Add "LS" suffix to end of catalog number to order panels with a limit switch. Available on all positions - consult factory. Limit switch ratings are [125, 250, 480 VAC, 15A], [125 VDC, .5A], [250 VDC, .25A]. **Plugs must be ordered separately.**

Posi-Lok™ E0400 Series Male Plugs, Crimp and Double Set Screw Features:

- Designed to meet Article 520-53 Section K and Article 530-22 Section A (NEC) standards
- · Polarized plugs eliminate the possibility of cross-phasing
- Built-in strain relief reduces cable strain
- Proven Cam-Lok™ double cam principle provides a positive, vibration-proof connection
- No moving contact surfaces, eliminating arcing or burning of contacts
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- Polarizing shell thermoplastic
- Temperature rating: -40°C to 105°C

Ordering Information - Male Plugs:

Termination	Position	Complete Cat. #	Contact Only Cat. #	Insulator Cat. #	Polarizing Shell Cat. #
	Green	E0400-141	A201271-2	3336200-1	A201263-6
	White	E0400-142	A201271-2	3336200-2	A201263-7
	Black	E0400-143	A201271-2	3336200-3	A201263-8
Crimp	Red	E0400-144	A201271-2	3336200-4	A201263-9
1/0-2/0	Blue	E0400-145	A201271-2	3336200-5	A201263-10
	Brown	E0400-146	A201271-2	3336200-6	A201263-29
	Orange	E0400-147	A201271-2	3336200-7	A201263-30
	Yellow	E0400-148	A201271-2	3336200-8	A201263-31
	Green	E0400-161	A201271-1	3336200-9	A201263-1
	White	E0400-162	A201271-1	3336200-10	A201263-2
	Black	E0400-163	A201271-1	3336200-11	A201263-3
Crimp	Red	E0400-164	A201271-1	3336200-12	A201263-4
3/0-4/0	Blue	E0400-165	A201271-1	3336200-13	A201263-5
	Brown	E0400-166	A201271-1	3336200-14	A201263-26
	Orange	E0400-167	A201271-1	3336200-15	A201263-23
	Yellow	E0400-168	A201271-1	3336200-16	A201263-25
	Green	E0400-151	A201283-3	3336200-1	A201263-6
	White	E0400-152	A201283-3	3336200-2	A201263-7
	Black	E0400-153	A201283-3	3336200-3	A201263-8
Double Set	Red	E0400-154	A201283-3	3336200-4	A201263-9
Screw #2 - 2 / 0	Blue	E0400-155	A201283-3	3336200-5	A201263-10
	Brown	E0400-156	A201283-3	3336200-6	A201263-29
	Orange	E0400-157	A201283-3	3336200-7	A201263-30
	Yellow	E0400-158	A201283-3	3336200-8	A201263-31
	Green	E0400-181	A201283-1	3336200-9	A201263-1
	White	E0400-182	A201283-1	3336200-10	A201263-2
	Black	E0400-183	A201283-1	3336200-11	A201263-3
Double Set	Red	E0400-184	A201283-1	3336200-12	A201263-4
Screw 3 / 0 - 4 / 0	Blue	E0400-185	A201283-1	3336200-13	A201263-5
	Brown	E0400-199	A201283-1	3336200-14	A201263-26
	Orange	E0400-195	A201283-1	3336200-15	A201263-23
	Yellow	E0400-192	A201283-1	3336200-16	A201263-25







Male contact



Assembled length is 7-1/4"

Posi-Lok™ Plugs and Panels E0400 Series Cable Size #2 AWG - 4 / 0

Cable Size #2 AWG - 4 / 0 600V AC/DC Up to 400A Continuous

Posi-Lok™ E0400 Series Male Panels

Features:

- Designed to meet Article 520-53 Section K and Article 530-22 Section A (NEC) standards
- Sequential interlock system requires the user to connect and disconnect each plug in sequence
- Polarized panels eliminate the possibility of cross-phasing
- Proven Cam-Lok™ double cam principle provides a positive, vibration-proof connection
- No moving contact surfaces, eliminating arcing or burning of contacts
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

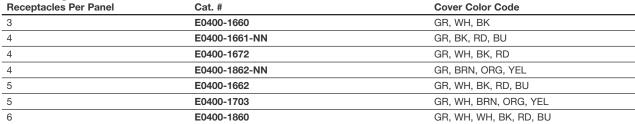
Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

Material Characteristics:

- Insulator TPE
- Temperature rating: -40°C to 105°C

Ordering Information - Male Panels:



GR = Green; WH = White; BK = Black; RD = Red; BU = Blue; BRN = Brown; ORG = Orange; YEL = Yellow; NN = Panel without Neutral Add "LS" suffix to end of catalog number to order panels with a limit switch. Available on all positions - consult factory. Limit switch ratings are [125, 250, 480 VAC, 15A], [125 VDC, .5A], [250 VDC, .25A]. **Plugs must be ordered separately.**



Posi-Lok™ E0400 Series Female Plugs, Crimp and Double Set Screw

Features:

- Designed to meet Article 520-53 Section K and Article 530-22 Section A (NEC) standards
- Polarized plugs eliminate the possibility of cross-phasing
- Built-in strain relief reduces cable strain
- Proven Cam-Lok™ double cam principle provides a positive, vibration-proof connection
- No moving contact surfaces, eliminating arcing or burning of contacts
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

- Listed to UL498, File No. E67181
- CSA certified to C22.2 No. 182.3-M1987, File No. LR13963

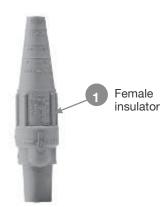
Material Characteristics:

- Insulator TPE
- · Polarizing shell thermoplastic
- Temperature rating: -40°C to 105°C

Ordering Information - Female Plugs:

Termination	Position	Complete Cat. #	Contact Only Cat. #	Insulator Cat. #	Polarizing Shell Cat. #
	Green	E0400-241	A201272-4	3336199-1	A201262-6
	White	E0400-242	A201272-4	3336199-2	A201262-7
	Black	E0400-243	A201272-4	3336199-3	A201262-8
Crimp	Red	E0400-244	A201272-4	3336199-4	A201262-9
1/0-2/0	Blue	E0400-245	A201272-4	3336199-5	A201262-10
	Brown	E0400-246	A201272-4	3336199-6	A201262-27
	Orange	E0400-247	A201272-4	3336199-7	A201262-28
	Yellow	E0400-248	A201272-4	3336199-8	A201262-29
	Green	E0400-261	A201272-2	3336199-9	A201262-1
	White	E0400-262	A201272-2	3336199-10	A201262-2
	Black	E0400-263	A201272-2	3336199-11	A201262-3
Crimp	Red	E0400-264	A201272-2	3336199-12	A201262-4
3/0-4/0	Blue	E0400-265	A201272-2	3336199-13	A201262-5
	Brown	E0400-266	A201272-2	3336199-14	A201262-26
	Orange	E0400-267	A201272-2	3336199-15	A201262-23
	Yellow	E0400-268	A201272-2	3336199-16	A201262-25
	Green	E0400-251	A201284-3	3336199-1	A201262-6
	White	E0400-252	A201284-3	3336199-2	A201262-7
	Black	E0400-253	A201284-3	3336199-3	A201262-8
Double Set Screw	Red	E0400-254	A201284-3	3336199-4	A201262-9
#2 - 2 / 0	Blue	E0400-255	A201284-3	3336199-5	A201262-10
	Brown	E0400-256	A201284-3	3336199-6	A201262-27
	Orange	E0400-257	A201284-3	3336199-7	A201262-28
	Yellow	E0400-258	A201284-3	3336199-8	A201262-29
	Green	E0400-281	A201284-1	3336199-9	A201262-1
	White	E0400-282	A201284-1	3336199-10	A201262-2
	Black	E0400-283	A201284-1	3336199-11	A201262-3
Double Set Screw	Red	E0400-284	A201284-1	3336199-12	A201262-4
3/0-4/0	Blue	E0400-285	A201284-1	3336199-13	A201262-5
	Brown	E0400-299	A201284-1	3336199-14	A201262-26
	Orange	E0400-295	A201284-1	3336199-15	A201262-23
	Yellow	E0400-292	A201284-1	3336199-16	A201262-25







Female contact



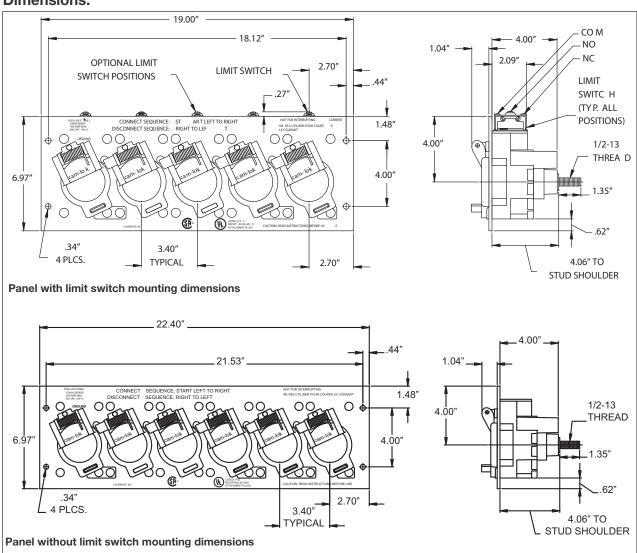
Polarizing shell

Assembled length is 7-1/4"

Posi-Lok™ Plugs and Panels E0400 Series

Cable Size #2 AWG - 4 / 0 600V AC/DC Up to 200A Continuous

Dimensions:



Protective Plug Caps:

Cat. #	Description
A100601-17	Cap for Male E0400
A100602-17	Cap for Female E0400
A201319-1	Cap for Male E0200
A201319-1	Cap for Female E0200

Replacement Parts, Crimping Nest and Presses Ordering Information:

Cat. #	Description
A400001	Assembly Tool
A100632	Tool for Removing Contacts from Insulators
A100072	Cable Cutter - #2 - 4 / 0 Cable
201310	Insulator Holding Bracket
A201303	Assembly Tool for 200A Plugs
A200020-3	COM-A-LONG for Pulling Male Contact
A200020-4	COM-A-LONG for Pulling Female Contact
A101208	2 Oz. Tube Silicon Grease for Lubricating Mating End of Synthetic Rubber Insulators

Ordering Information - Crimping Nest and Presses:

Cable Size	Crimping Nests Cat. #	Crimping Presses (Includes Crimp Nest) Cat. #		
#2 - #1	100514-3	A200914-3		
1/0-2/0	100514-4	A200914-4		
3/0	100514-5	A200914-5		
4/0	100514-6	Δ200914-6		

Ordering Information - Other Accessories:

Connector Series	Set Screw Cat. #	Copper Shim Cat. #	Pressure Pad Cat. #	Retaining Wire Cat. #
E0200	100012-33	100400-5	-	100573-1
E0400	100012-18	100/00-8	101214	100573_1



Roughneck High Amperage Connectors are rugged and weatherproof and provide a high level of indestructibility. They are built to take heavy abuse (resistant to wind, rain, mud, oil, and sea water), yet can be quickly connected and disconnected without any tools.

Specially designed to handle a variety of drilling applications, they can be quickly and safely connected to the switchgear, AC or DC sides of the SCR package, and carry power to mud pumps and traction motors.

The latching device locks the halves together, eliminating the possibility of accidental disengagement, which can cause disruption of service and electrical shock hazards. The latching device is designed to permit insertion of a lockout/tagout device to provide additional security or the ability to padlock.

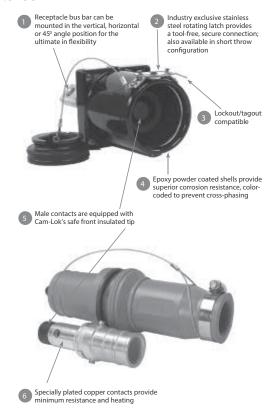
Roughneck Plugs and Receptacles feature totally shielded contacts. The rubber insulator extends past the ends of both male and female contacts for complete safety. Male contacts are equipped with an insulated tip to minimize potential shock hazard. Roughneck products provide the safest high amperage connector in the industry.

Ten colors are available to provide easy circuit identification when mating plugs with receptacles. Color coding helps prevent reverse phasing on AC circuits or cross polarization on DC circuits to assure correct rotation of motors while providing for operator safety.

Applications:

- Roughneck Plugs and Receptacles are built to take heavy abuse while providing a simple, secure, and safe connection
- · Roughneck products are designed specifically for oil and gas drilling applications

Features:



Electrical Ratings:

- 1000 Volts, Max. AC/DC
- 1135 amps continuous (1300 amps intermittent)

Temperature Ratings:

• -40°C to 125°C

cURus: F73864 NEMA 3

Certifications and Compliances:

• cURus: E73864

Environmental Ratings:

• NEMA 3

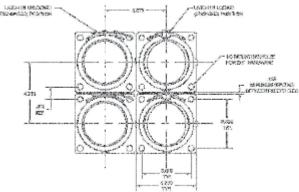
Standard Materials:

- Cable sizes 313-777 MCM
- Insulator rubber
- · Receptacle shell epoxy powder coated aluminum alloy
- · Hardware stainless steel
- · Contact copper

Ampacity Rating - 40°C Ambient

Cable Size	90°C†	125°C†
313 MCM	513 amps	636 amps
444 MCM	642 amps	796 amps
535 MCM	724 amps	898 amps
646 MCM	814 amps	1009 amps
777 MCM	916 amps	1135 amps

†Conductor temperature shall not exceed these ratings



Receptacle housing mounting pattern (rotating latch) (0.125" minimum spacing required between receptacles)

Roughneck E1049 Series Male & Female Plugs 11P

Cable Size 313 MCM 1000V AC/DC, Up to 636A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- · Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- · Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- · Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

• cURus: E73864

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3

• Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:

Hexagon Crimp or Solder for **313 MCM**

Type of Connection

and Wire Size

Color	Complete Male Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-31	A201106-1	
Yellow	E1049-32	A201106-2	
Red	E1049-33	A201106-3	_
Orange	E1049-34	A201106-4	
Green	E1049-35	A201106-5	— A201107-4
White	E1049-36	A201106-6	— A201107-4
Blue	E1049-37	A201106-7	<u>—</u>
Brown	E1049-38	A201106-8	
Purple	E1049-39	A201106-20	
Gray	E1049-40	A201106-21	

E1049-34

Ordering Information - Female Plugs:

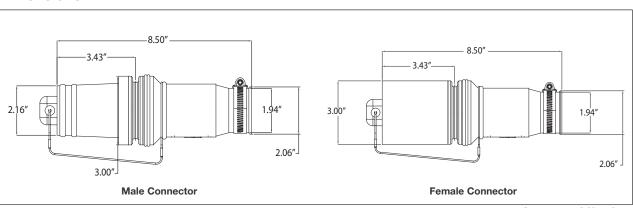
Type of Connection and Wire Size	Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact Only
and wire Size	Color	Connector Cat. #	Cat. #	Cat. #



Hexagon Crimp or for **313 MCM**

Colo	r Connector Cat. #	Cat. #	Cat. #
Black	E1049-80	A201100-1	
Yello	w E1049-81	A201100-2	
Red	E1049-82	A201100-3	
Oran	ge E1049-83	A201100-4	
Gree	n E1049-84	A201100-5	— A201103-4
White	E1049-85	A201100-6	— A201103-4
Blue	E1049-86	A201100-7	
Brow	n E1049-87	A201100-8	
Purp	e E1049-88	A201100-25	
Gray	E1049-89	A201100-26	

E1049-82



Contact Only

A201107-8

Contact Only

Cat. #

Roughneck E1049 Series Male & Female Plugs

Cable Size 444 MCM 1000V AC/DC, Up to 796A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- · Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

Insulator Only

Insulator Only

cURus: E73864

Material Characteristics:

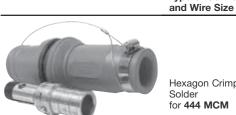
- · Insulator: rubber
- Environmental: NEMA 3

Complete Male

Complete Female

• Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:



Hexagon Crimp or Solder for **444 MCM**

Type of Connection

Color	Connector Cat. #	Cat. #
Black	E1049-201	A201106-1
Yellow	E1049-202	A201106-2
Red	E1049-203	A201106-3
Orange	E1049-204	A201106-4
Green	E1049-205	A201106-5
White	E1049-206	A201106-6
Blue	E1049-207	A201106-7
Brown	E1049-208	A201106-8
Purple	E1049-209	A201106-20
Grav	E1049-210	A201106-21

E1049-210

Ordering Information - Female Plugs:

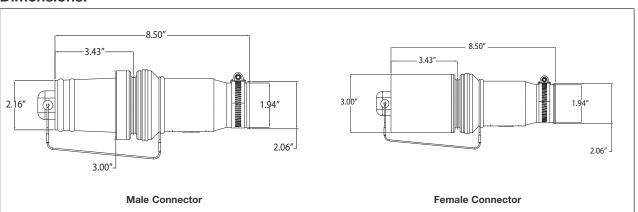
Type of Connection and Wire Size

Color	Connector Cat. #	Cat. #	Cat. #
Black	E1049-250	A201100-1	
Yellow	E1049-251	A201100-2	
Red	E1049-252	A201100-3	
Orange	E1049-253	A201100-4	
Green	E1049-254	A201100-5	— A201103-8
White	E1049-255	A201100-6	— A201103-8
Blue	E1049-256	A201100-7	
Brown	E1049-257	A201100-8	
Purple	E1049-258	A201100-25	
Gray	E1049-259	A201100-26	



E1049-256

Dimensions:



Crouse-Hinds

11P Roughneck E1049 Series Male & Female Plugs

Cable Size 535 MCM 1000V AC/DC, Up to 898A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- · Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

• cURus: E73864

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:

Hexagon Crimp or Solder for **535 MCM**

Type of Connection and Wire Size

Color	Complete Male Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-1	A201106-1	
Yellow	E1049-2	A201106-2	
Red	E1049-3	A201106-3	
Orange	E1049-4	A201106-4	
Green	E1049-5	A201106-5	— A201107-1
White	E1049-6	A201106-6	— A201107-1
Blue	E1049-7	A201106-7	
Brown	E1049-8	A201106-8	
Purple	E1049-9	A201106-20	
Gray	E1049-10	A201106-21	_

E1049-10

Ordering Information - Female Plugs:

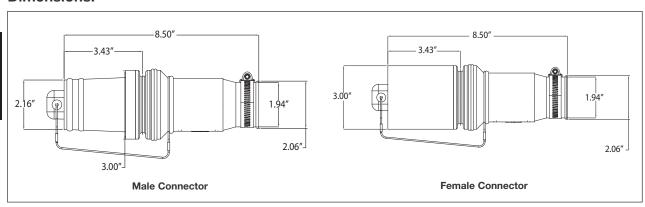
Type of Connection and Wire Size

	2
4	

Hexagon Crimp or Solder for **535 MCM**

Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-50	A201100-1	
Yellow	E1049-51	A201100-2	
Red	E1049-52	A201100-3	_
Orange	E1049-53	A201100-4	_
Green	E1049-54	A201100-5	- - A201103-1
White	E1049-55	A201100-6	- A201103-1
Blue	E1049-56	A201100-7	_
Brown	E1049-57	A201100-8	_
Purple	E1049-58	A201100-25	_
Gray	E1049-59	A201100-26	_

E1049-58



Contact Only

Cat. #

Cable Size 646 MCM 1000V AC/DC, Up to 1009A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

• cURus: E73864

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3

Complete Male

• Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs:

Hexagon Crimp or Solder for 646 MCM

Type of Connection

and Wire Size

Color	Connector Cat. #	Cat. #
Black	E1049-11	A201106-1
Yellow	E1049-12	A201106-2
Red	E1049-13	A201106-3
Orange	E1049-14	A201106-4
Green	E1049-15	A201106-5
White	E1049-16	A201106-6
Blue	E1049-17	A201106-7
Brown	E1049-18	A201106-8
Purple	E1049-19	A201106-20
Gray	E1049-20	A201106-21

A201107-2

Insulator Only

E1049-14

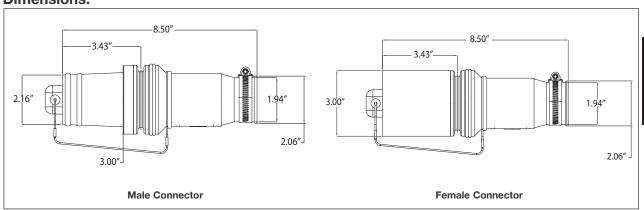
Ordering Information - Female Plugs:

Type of Connection and Wire Size

	and wire Size
)	Hexagon Crimp o
80	Solder for 646 MCM

Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact Only Cat. #
Black	E1049-60	A201100-1	
Yellow	E1049-61	A201100-2	
Red	E1049-62	A201100-3	
Orange	E1049-63	A201100-4	
Green	E1049-64	A201100-5	— — A201103-2
White	E1049-65	A201100-6	— A201103-2
Blue	E1049-66	A201100-7	
Brown	E1049-67	A201100-8	
Purple	E1049-68	A201100-25	
Gray	E1049-69	A201100-26	

E1049-64



Roughneck E1049 Series 11P **Male & Female Plugs**

Cable Size 777 MCM 1000V AC/DC, Up to 1135A Continuous

Roughneck E1049 Series Hex Crimp or Solder

Features:

- · Contacts machined from solid copper and specially plated for corrosion resistance and superior conductivity
- Color-coded rubber insulator provides quick visual identification of circuit and phase connections
- Watertight insulators provide maximum protection
- Male and female contacts are assembled to cable with standard crimp tools
- Drive pins on contacts securely lock it to the insulator
- Male contacts are equipped with Safe Front Insulated Tip

Testing and Code Compliance:

Insulator Only

Contact Only Cat. #

A201107-3

Only

• cURus: E73864

Material Characteristics:

- Insulator: rubber
- Environmental: NEMA 3

Complete Male

• Temperature rating: -40°C to 125°C

Ordering Information - Male Plugs: Type of Connection and Wire Size

Hexagon Crimp or Solder for **777 MCM**

Color	Connector Cat. #	Cat. #	
Black	E1049-21	A201106-1	
Yellow	E1049-22	A201106-2	
Red	E1049-23	A201106-3	
Orange	E1049-24	A201106-4	
Green	E1049-25	A201106-5	
White	E1049-26	A201106-6	_ '
Blue	E1049-27	A201106-7	
Brown	E1049-28	A201106-8	
Purple	E1049-29	A201106-20	
Gray	E1049-30	A201106-21	_

E1049-29

Ordering Information - Female Plugs:

Type of Connection and Wire Size

(1)	
8	
1	Section 1

Hexagon Crimp or
Solder
for 777 MCM

Color	Complete Female Connector Cat. #	Insulator Only Cat. #	Contact On Cat. #
Black	E1049-70	A201100-1	
Yellow	E1049-71	A201100-2	
Red	E1049-72	A201100-3	
Orange	E1049-73	A201100-4	
Green	E1049-74	A201100-5	
White	E1049-75	A201100-6	— A201103-3
Blue	E1049-76	A201100-7	
Brown	E1049-77	A201100-8	
Purple	E1049-78	A201100-25	
Gray	E1049-79	A201100-26	

E1049-76

Dimensions: 8.50" -3.43" 8.50 3.43" 2.16" 3.00" 2.06" 2.06" 3.00" **Male Connector Female Connector**

Roughneck E1049 Series Receptacles

Cable Size 313-777 MCM 1000V AC/DC, 1135A

Roughneck Receptacles Single and Double Hole Bus Bar - Rotating Latch

- Color-coded receptacle housings are designed to provide easy circuit identification
- Epoxy powder shell coating provides superior corrosion resistance
- Receptacle housing allows bus bar positioning at vertical, horizontal, and 45° to ease cable routing
- Receptacle assembly provides 360° mounting capabilities
- Ten standard colors available
- Locking device is lockout compatible
- Dust cover is secured to the receptacle housing
- Stainless steel hardware
- Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

Testing and Code Compliance:

• cURus: E73864

Material Characteristics:

- Receptacle body: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Female Bus Bar:

Ordering intornic	audii - Feiliai	c Dus Dai	•				
	Female	_	Female Single Hole Bus Bar				
	Complete Housing Contact Assembly Assembly Assembly Cat. # Cat. # Cat. #		Assembly	Color	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #
	E1049-1833X-BK	3326695-1	A201108-9	Black	E1049-1825X-BK	3326695-1	A201108-1
	E1049-1834X-Y	3326695-2	A201108-10	Yellow	E1049-1826X-Y	3326695-2	A201108-2
	E1049-1835X-R	3326695-3	A201108-11	Red	E1049-1827X-R	3326695-3	A201108-3
	E1049-1836X-OR	3326695-4	A201108-12	Orange	E1049-1828X-OR	3326695-4	A201108-4
15/5	E1049-1837X-G	3326695-5	A201108-13	Green	E1049-1829X-G	3326695-5	A201108-5
	E1049-1838X-W	3326695-6	A201108-14	White	E1049-1830X-W	3326695-6	A201108-6
	E1049-1839X-BL	3326695-7	A201108-15	Blue	E1049-1831X-BL	3326695-7	A201108-7
	E1049-1840X-BR	3326695-8	A201108-16	Brown	E1049-1832X-BR	3326695-8	A201108-8
	E1049-1822X-PR	3326695-9	A201108-19	Purple	E1049-1820X-PR	3326695-9	A201108-17
	E1049-1823X-GY	3326695-10	A201108-20	Gray	E1049-1821X-GY	3326695-10	A201108-18



Ordering Information - Male Bus Bar:

•								
	Male D	ouble Hole Bus	s Bar	_	Male Single Hole Bus Bar			
	Complete Housing Assembly Assembly Cat. # Cat. #		Contact Assembly Cat. # Color		Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	
	E1049-1808X-BK	3326695-1	A201099-9	Black	E1049-1800X-BK	3326695-1	A201099-1	
	E1049-1809X-Y	3326695-2	A201099-10	Yellow	E1049-1801X-Y	3326695-2	A201099-2	
	E1049-1810X-R	3326695-3	A201099-11	Red	E1049-1802X-R	3326695-3	A201099-3	
	E1049-1811X-OR	3326695-4	A201099-12	Orange	E1049-1803X-OR	3326695-4	A201099-4	
	E1049-1812X-G	3326695-5	A201099-13	Green	E1049-1804X-G	3326695-5	A201099-5	
	E1049-1813X-W	3326695-6	A201099-14	White	E1049-1805X-W	3326695-6	A201099-6	
	E1049-1814X-BL	3326695-7	A201099-15	Blue	E1049-1806X-BL	3326695-7	A201099-7	
	E1049-1815X-BR	3326695-8	A201099-16	Brown	E1049-1807X-BR	3326695-8	A201099-8	
	E1049-1818X-PR	3326695-9	A201099-19	Purple	E1049-1816X-PR	3326695-9	A201099-17	
	E1049-1819X-GY	3326695-10	A201099-20	Gray	E1049-1817X-GY	3326695-10	A201099-18	

E1049-1808X-BK

Receptacle assembly part numbers include the insulator, receptacle housing, gasket, and dust cover.

Dust cover receptacle male or female catalog number: A201113-5.

Roughneck E1049 Series 11P **Receptacles**

Cable Size 313-777 MCM 1000V AC/DC, 1135A

Roughneck Receptacles Single and Double Hole Bus Bar - Short Throw Latch **Testing and Code Compliance: Features:**

- Color-coded receptacle housings are designed to provide easy circuit identification
- Epoxy powder shell coating provides superior corrosion resistance
- Receptacle housing allows bus bar positioning at vertical, horizontal, and 45° to ease cable routing
- Receptacle assembly provides 360° mounting capabilities
- Ten standard colors available
- Locking device is lockout compatible
- Dust cover can be secured to the receptacle housing
- Stainless steel hardware
- · Recessed contacts protected by insulating jacket that extends beyond contact ends for safety

• cURus: E73864

Material Characteristics:

- Receptacle body: rubber
- Environmental: NEMA 3
- Temperature rating: -40°C to 125°C

Ordering Information - Female Bus Bar:

	Female D	Oouble Hole Bus	Bar		Female Single Hole Bus Bar					
	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	Color	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #			
	E1049-1833ST-BK	3326695-1ST	A201108-9	Black	E1049-1825ST-BK	3326695-1ST	A201108-1			
	E1049-1834ST-Y	3326695-2ST	A201108-10	Yellow	E1049-1826ST-Y	3326695-2ST	A201108-2			
B	E1049-1835ST-R	3326695-3ST	A201108-11	Red	E1049-1827ST-R	3326695-3ST	A201108-3			
7	E1049-1836ST-OR	3326695-4ST	A201108-12	Orange	E1049-1828ST-OR	3326695-4ST	A201108-4			
	E1049-1837ST-G	3326695-5ST	A201108-13	Green	E1049-1829ST-G	3326695-5ST	A201108-5			
9	E1049-1838ST-W	3326695-6ST	A201108-14	White	E1049-1830ST-W	3326695-6ST	A201108-6			
	E1049-1839ST-BL	3326695-7ST	A201108-15	Blue	E1049-1831ST-BL	3326695-7ST	A201108-7			
	E1049-1840ST-BR	3326695-8ST	A201108-16	Brown	E1049-1832ST-BR	3326695-8ST	A201108-8			
	E1049-1822ST-PR	3326695-9ST	A201108-19	Purple	E1049-1820ST-PR	3326695-9ST	A201108-17			
	E1049-1823ST-GY	3326695-10ST	A201108-20	Gray	E1049-1821ST-GY	3326695-10ST	A201108-18			

E1049-1833ST-BK

Ordering Information - Male Bus Bar:

	Male Do	ouble Hole Bus E	Bar		Male Single Hole Bus Bar				
	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #	Color	Complete Assembly Cat. #	Housing Assembly Cat. #	Contact Assembly Cat. #		
	E1049-1808ST-BK	3326695-1ST	A201099-9	Black	E1049-1800ST-BK	3326695-1ST	A201099-1		
	E1049-1809ST-Y	3326695-2ST	A201099-10	Yellow	E1049-1801ST-Y	3326695-2ST	A201099-2		
ħ.	E1049-1810ST-R	3326695-3ST	A201099-11	Red	E1049-1802ST-R	3326695-3ST	A201099-3		
	E1049-1811ST-OR	3326695-4ST	A201099-12	Orange	E1049-1803ST-OR	3326695-4ST	A201099-4		
×	E1049-1812ST-G	3326695-5ST	A201099-13	Green	E1049-1804ST-G	3326695-5ST	A201099-5		
	E1049-1813ST-W	3326695-6ST	A201099-14	White	E1049-1805ST-W	3326695-6ST	A201099-6		
	E1049-1814ST-BL	3326695-7ST	A201099-15	Blue	E1049-1806ST-BL	3326695-7ST	A201099-7		
	E1049-1815ST-BR	3326695-8ST	A201099-16	Brown	E1049-1807ST-BR	3326695-8ST	A201099-8		
	E1049-1818ST-PR	3326695-9ST	A201099-19	Purple	E1049-1816ST-PR	3326695-9ST	A201099-17		
	E1049-1819ST-GY	3326695-10ST	A201099-20	Gray	E1049-1817ST-GY	3326695-10ST	A201099-18		



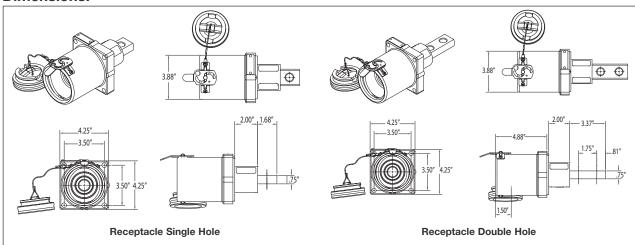
Receptacle assembly part numbers include the insulator, receptacle housing, gasket, and dust cover. Dust cover receptacle male or female catalog number: A201113-1.

Roughneck E1049 Series Receptacles

Cable Size 313-777 MCM 1000V AC/DC, 1135A

Accessories:

Description	Cat. #
Receptacle Repair Kit - Short Throw	K3326821
Clevis Pin for Coupler	A101058-2
Adhesive, 8 oz. Can	100312-2
Receptacle Dust Cover - Short Throw	A201113-1
Dust Cover for Male Plug, Black	A201113-2
Dust Cover for Female Plug, Black	A201114-2
Gasket for Receptacle Housing	201115
Lockout Kit for Padlocking Receptacle	A201120-1
Coupler for Mating Male to Female Plug	A201096-1
Receptacle Dust Cover - Rotating Latch	A201113-5
Neoprene Vulcanizing Tape	319735-1



11P Quik-Loc™ Connectors

600 Volt Standard

Applications:

- Drills
- · Shuttle cars
- Conveyors
- Power distribution
- Slusher hoists
- Motors
- · Heavy equipment
- Ship-to-shore power

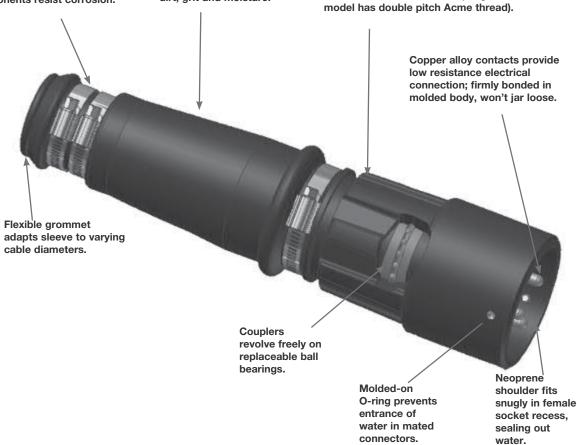
Features:

- Corrosion-resistant molded neoprene components (insert body, sleeve, grommets), neoprene covered alloy couplings, and stainless steel clamps are unaffected by most chemicals and acids
- Field attachable quick field assembly requires standard tools with color-coded wiring terminals indicating proper conductor locations; dual set screw design enhances connection
- Quick disconnect couplers with "pin and groove" design support engagement and disengagement in just ¾ turn; couplers revolve freely on replaceable ball bearings
- Safe all metal components are thoroughly insulated using a barrier of molded neoprene; a reversed ground pin assures positive polarization
- Watertight compression fit of neoprene components and cable hugging grommets provide a moisture-tight seal; positive water seal between mated connectors is provided by an o-ring type seal molded to the connector

Non-slipping, worm-gear driven clamps assure a watertight fit between protective sleeve, terminal area and cable. Stainless steel components resist corrosion.

One-piece neoprene protective sleeve seals wiring area from dirt, grit and moisture.

Sturdy neoprene covered metal couplings withstand rough handling and abuse. Pin and groove threads engage or disengage in just ¾ turn; won't cross thread or burr. (Largest model has double pitch Acme thread)



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600 Volt Plugs

Quik-Loc™ male and female connectors provide electrical, mechanical, and environmental protection for 600 volt AC and DC applications.

Certifications and Compliances:

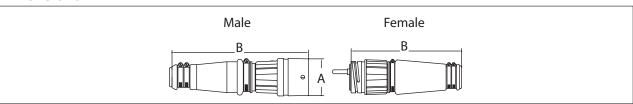
 600 volt MSHA (Mine Safety Health Administration) approval for underground mining



Ordering Information - 600 Volt Plugs:

ordoning in		Connector Rating	g (Approximate Inches) Cat. #		Rating (Approximate		Cat. #				Protective Ca Receptacle C	
Max. Cable Size (AWG)	Suggested Cable Rating	Only† Amps (600V)	Α	В	Male	Female	Male	Female				
For DC 2 Power	+ 1 Ground without	Pilot Circuit	Contacts									
4	70	125	4	139/16	X8323-4C	X8323-3C	3325656-2	3325656-1				
2	95	160	4	1311/16	X8324-2C	X8324-1C	3325656-2	3325656-1				
2/0	150	225	43/16	155/16	X8325-3C	X8325-2C	3325656-4	3325656-3				
4 / 0	200	325	45/8	1315/16	X8326-1C	X8326-2C	3325656-8	3325656-7				
400 MCM For DC 2 Power	280 + 1 Ground with Pil	500 lot Circuit Cor	6 ntacts	19%	X8327-1C	X8326-2C	3325656-10	3325656-9				
8	40	75	4	137/16	X8329-2C	X8329-1C	3325656-2	3325656-1				
4	70	125	1	13%16	X8330-3C	X8330-4C	3325656-2	3325656-1				
2	95	160	43/16	1415/16	X8331-1C	X8331-4C	3325656-4	3325656-3				
2/0	150	225	45/8	1615/16	X8332-1C	X8332-8C	3325656-6	3325656-5				
4 / 0	200	325	5	16¹/₂	X8333-4C	X8333-3C	3325656-8	3325656-7				
300 MCM	240	425	67/16	221/4	X8334-2C	X8334-1C	3325656-10	3325656-9				
500 MCM For AC 3 Power	320 + 1 Ground without	625 Pilot Circuit (4 ⁷ / ₁₆	2915/16	X8335-1C	X8335-2C	3325656-12	3325656-11				
8	35	75	35/8	1113/16	X8336-3D	X8336-2D	3325656-2	3325656-1				
4	65	125	4	13%16	X8337-3D	X8337-4D	3325656-2	3325656-1				
2	90	160	37/8	131/16	X8338-2D	X8338-3D	3325656-4	3325656-3				
2/0	135	225	43/16	141/16	X8339-1D	X8339-2D	3325656-6	3325656-5				
4 / 0	180	325	5	161/2	X8340-5D	X8340-4D	3325656-8	3325656-7				
300 MCM For AC 3 Power	220 + 1 Ground with Pil	425 ot Circuit Con	6 ⁷ / ₁₆	221/4	X8341-2C	X8341-1C	3325656-10	3325656-9				
8	35	75	4	137/16	X8343-5D	X8343-4D	3325656-2	3325656-1				
4	65	125	37/8	13	X8344-5D	X8344-4D	3325656-4	3325656-3				
2	90	160	43/16	141/16	X8345-5D	X8345-6D	3325656-6	3325656-5				
2/0	135	225	45/8	1315/16	X8346-2D	X8346-1D	3325656-6	3325656-7				
			07/			V004E 4B	0005050					
4 / 0	180	325	67/16	2115/16	X8347-2D	X8347-1D	3325656-8	3325656-9				

 $\dagger This$ is connector rating only. Operating rating must be based on cable capacity.



600 Volt Dust-tight Receptacles

Male and female receptacles use machined manganese bronze mounting shells with $^{9\!/_{4}}$ turn rotation.

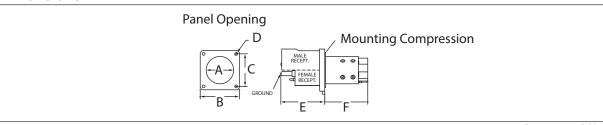
Certifications and Compliances:

 600 volt MSHA (Mine Safety Health Administration) approval for underground mining



Ordering Information - 600 Volt Dust-tight Receptacles:

Cat. #	Dimen	sions (Appı	Pilot Short Circuiting Cap					
Male	Female	Α	В	С	D	E	F	or Fem. Rec. Cat. #
For DC 2 Powe	r + 1 Ground withou	ut Pilot Circ	cuit Contac	ts				
X8323-13C	X8323-8C	2	33/8	23/4	5/16	57/16	4	
X8324-13C	X8324-8C	2	33/8	23/4	5/16	59/16	4	
X8325-13C	X8325-8C	25/16	35/8	27/8	5/16	59/16	41/2	
X8326-13C	X8326-8C	3	41/2	31/2	3/8	61/8	51/16	
X8327-11C	X8327-6C	4	6	43/4	⁷ / ₁₆	71/2	61/16	
For DC 2 Powe	r + 1 Ground with F	ilot Circuit	Contacts					
X8329-15C	X8329-10C	2	33/8	23/4	5/16	415/16	4	X8329-3
X8330-16C	X8330-12C	2	33/8	23/4	5/16	57/16	37/8	X8330-7
X8331-15C	X8331-11C	25/16	35/8	27/8	5/16	59/16	41/2	X8331-6
X8332-16C	X8332-13C	25/8	4	31/8	5/16	61/16	415/16	X8332-9
X8333-7C	X8333-1C	3	41/2	31/2	3/8	61/2	51/16	X8333-12
X8334-15C	X8334-10C	4	6	43/4	7/16	73/16	61/16	X8334-5
X8335-8C	X8335-4C	5	71/4	57/8	9/16	87/8	61/4	X8335-6
For AC 3 Power	r + 1 Ground withou	ut Pilot Circ	uit Contac	ts				
X8336-13D	X8336-8D	2	33/8	23/4	5/16	55/16	4	
X8337-14C	X8337-11C	2	33/8	23/4	5/16	57/16	4	
X8338-13C	X8338-8C	25/16	35/8	27/8	5/16	59/16	41/2	
X8339-13C	X8339-3C	25/8	4	31/4	5/16	61/16	415/16	
X8340-2C	X8340-10C	3	41/2	31/2	3/8	61/2	51/16	
For AC 3 Power	r + 1 Ground with P	ilot Circuit	Contacts					
X8343-16C	X8343-12C	2	33/8	23/4	5/16	55/16	4	X8343-7
X8344-2C	X8344-1C	25/16	35/8	27/8	5/16	57/16	41/2	X8344-6
X8345-15C	X8345-10C	25/8	4	31/4	5/16	511/16	415/16	X8345-3
X8346-13C	X8346-8C	3	41/2	31/2	3/ ₁₈	63/16	51/16	X8346-3
X8347-13C	X8347-8C	4	6	43/4	⁷ / ₁₆	615/16	61/16	X8347-3
X8348-10B	X8348-7B	5	71/4	57/8	9/16	87/8	61/4	X8348-8



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600 Volt Receptacles for Permissible Enclosures

Short circuiting cap - used to jumper the pilot circuit in a disengaged connector when series wired control line to other equipment must be closed

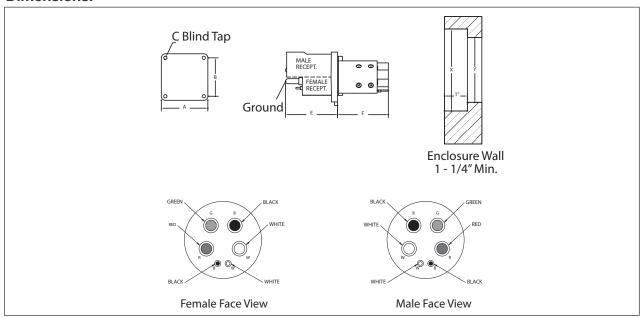
Certifications and Compliances:

 600 volt MSHA (Mine Safety Health Administration) approval for underground mining



Ordering Information - 600 Volt Receptacles for Permissible Enclosures:

Cat. #		Dimen	sions (App	Pilot Short Circuiting Cap					
Male	Male Female		В	С	D	E	Х	Υ	or Fem. Rec. Cat. #
For DC 2 Pow	er + 1 Ground with	Pilot Circ	uit Contac	ts					
X8329-13C	X8329-8C	41/8	27/8	1/2-13	55/16	4	23/4	2	X8329-3
X8330-14C	X8330-10C	41/8	27/8	1/2-13	57/16	37/8	23/4	2	X8330-7
X8331-13C	X8331-9C	41/2	31/4	1/2-13	49/16	41/2	3	25/16	X8331-6
X8332-14C	X8332-11C	43/4	31/2	1/2-13	61/16	415/16	33/8	25/8	X8332-9
X8333-14C	X8333-10C	5	33/4	1/2-13	51/2	413/16	33/4	215/16	X8333-12
X8334-13C	X8334-8C	6	47/8	1/2-13	63/16	513/16	51/8	315/16	X8334-5
For AC 3 Pow	er + 1 Ground with	Pilot Circ	uit Contac	ts					
X8343-14C	X8343-10C	41/8	27/8	1/2-13	55/16	4	23/4	2	X8343-7
X8344-12C	X8344-8C	41/2	31/4	1/2-13	57/16	41/2	3	25/16	X8344-6
X8345-15C	X8345-10C	43/4	31/2	1/2-13	511/16	43/16	33/8	25/8	X8345-3
X8346-11C	X8346-6C	5	33/4	1/2-13	63/16	51/16	33/4	215/16	X8346-3
X8347-11C	X8347-6C	6	37/8	1/2-13	615/16	61/16	51/8	315/16	X8347-3



11P Quik-Loc™ Connectors

600 Volt Accessories

Receptacles mate with the attachable plugs and are equipped with sleeve-type wiring terminals and molded neoprene wiring barriers. Bronze alloy mounting shells and molded neoprene inserts protect against almost any environment. Receptacles are available as dust-tight and for permissible use.

Certifications and Compliances:

 600 volt MSHA (Mine Safety Health Administration) approval for underground mining



Ordering Information - 600 Volt Accessories:

		Mounting Shell								
Molded Insert			Dust-tight		Permissible					
Male Cat. #	Female Cat. #	Male Cat. #	Female Cat. #	Male Cat. #	Female Cat. #					
X8323-2	X8323-1	A324289	324088	-	-					
X8324-3	X8324-4	A324289	324088	-	-					
X8325-4	X8325-1	A324357	324063	-	-					
X8326-5	X8326-4	A324232	324059	-	-					
X8327-14	X8327-13	A324166	324094	-	-					
X8329-4	X8329-5	A324289	324088	A324292	324300					
X8330-5	X8330-6	A324289	324088	A324292	324300					
X8331-5	X8331-3	A324357	324063	A324350	324353					
X8332-7	X8332-5	A324119	324093	A324206	324198					
X8333-6	X8333-5	A324232	324059	A324231	324238					
X8334-3	X8334-4	A324166	324094	A324174	324170					
X8335-11	X8335-10	324095	324065	-	-					
X8336-4	X8336-1	A324289	324088	-	-					
X8337-6	X8337-7	A324289	324088	-	-					
X8338-4	X8338-1	A324357	324063	-	-					
X8339-6	X8339-5	A324119	324093	-	-					
X8344-16	X8344-15	A324357	324063	A324350	324353					
X8345-2	X8345-1	A324119	324093	A324206	324198					
X8346-16	X8346-15	A324232	324059	A324231	324238					
X8347-16	X8347-15	A324166	324094	A324174	324170					
X8348-4	X8348-5	324095	324065	-	-					

600 Volt Sleeves and Grommets

Elastomeric molded sleeve and grommet design support flexible field installation with multi-conductor cables.

Sleeve and grommet capability promote environmental protection with superior chemical resistance.

Ordering Information - 600 Volt Sleeves and Grommets:

Listed below are the sleeve and grommet catalog numbers which are supplied with each plug.

Plug Cat. #	Sleeve Cat. #	Grommet #1 Cat. #	Grommet #2 Cat. #	Grommet #3 Cat. #	Plug Cat. #	Sleeve Cat. #	Grommet #1 Cat. #	Grommet #2 Cat. #	Grommet #3 Cat. #
X8323	325298	313305-1	313305-2	313305-5	X8336	325298	313305-2	-	-
X8324	325298	313305-1	313305-2	313305-5	X8337	325298	313305-1	313305-2	-
X8325	325292	313327-1	313327-2	313327-7	X8338	325292	313327-1	313327-2	-
X8326	325245	324153-1	324153-2	-	X8339	325286	324044-1	324044-2	-
X8327	325271	324089-1	324089-2	-	X8340	325245	324153-1	324153-2	-
X8329	325298	313305-2	-	-	X8341	325271	313089-1	313089-2	-
X8330	325298	313305-1	313305-2	313305-5	X8343	325298	313305-1	-	-
X8331	325292	313327-2	313327-3	313327-6	X8344	325292	313327-2	313327-3	-
X8332	325286	324044-1	324044-2	324044-5	X8345	325286	324044-3	324044-4	-
X8333	325245	324153-1	324153-2	324153-6	X8346	325245	324153-2	324153-3	-
X8334	325271	324089-1	324089-2	-	X8347	325271	324089-2	324089-3	_
X8335	325305	324024-4	324024-5	-	X8348	325305	324024-4	324024-5	-

For round cable: select grommet that adapts inside diameter of sleeve (supplied on plug) to outside diameter of cable being used.

	Fits Cable	(Without Grommet)		Extension Ra	ange of "Adapter	Grommets" fo	r Sleeves Listed	at Left
Sleeve Cat. #	From	То	Grommet Cat. #	Range	Grommet Cat. #	Range	Grommet Cat. #	Range
325298	1.500	1.250	313305-3	1.250 1.000	313305-2	1.000 0.750	313305-3	0.750 0.562
325292	1.813	1.562	313327-1	1.562 1.312	313327-2	1.312 1.062	313327-3	1.062 0.812
325286	2.000	1.812	324044-1	1.812 1.625	324044-2	1.625 1.437	324044-3	1.437 1.250
325245	2.375	2.125	324153-1	2.125 1.937	324153-2	1.937 1.750	324153-3	1.750 1.562
325271	2.937	2.625	324089-1	2.625 2.312	324089-2	2.312 2.000	324089-3	2.000 1.812
325305	3.281	3.000	324024-4	3.000 2.812	324024-5	2.812 2.625	324024-6	2.625 2.531

	Fits Cable	e (Without Grommet)	Extension	Extension Range of "Adapter Grommets" for Sleeves Listed at Le							
Sleeve Cat. #	From	То	Grommet Cat. #	Range	Grommet Cat. #	Range					
325298	1.500	1.250	-	-	-	-					
325292	1.813	1.562	313327-4	0.812 0.625	-	-					
325286	2.000	1.812	324044-4	1.250 1.062	-	-					
325245	2.375	2.125	324153-4	1.562 1.375	-	-					
325271	2.937	2.625	-	-	-	-					
325305	3.281	3.000	324024-2	2.531 2.312	324024-3	2.312 2.125					

11P Quik-Loc™ Connectors

600 Volt Sleeves and Grommets

Ordering Information - 600 Volt Sleeves and Grommets:

For Twin W and Twin G cable: select grommet that adapts inside diameter of sleeve (supplied on plug) to outside diameter of cable being used.

Wire Size†	#8	3	#	ŧ6	#	4	#	:3	#	2
Cable Dimensions	.51 X .84	.51 X .92	.56 X .93	.56 X 1.02	.61 X 1.05	.61 X 1.15	.68 X 1.14	.68 X 1.26	.73 X 1.35	.73 X 1.40
Sleeve Cat. #					Gromme	ets Cat. #				
325298	313305-4				313305-5					
325292					313327-6					
325286										
325245										

Wire Size†	#	1	#1	/ 0	#2	/ 0	#3	/ 0	#4	/ 0
Cable Dimensions	.81 X 1.40	.81 X 1.55	.93 X 1.51	.93 X 1.67	.99 X 1.63	.99 X 1.85	1.03 X 1.77	1.03 X 2.00	1.10 X 1.89	1.10 X 2.10
Sleeve Cat. #					Gromme	ets Cat. #				
325298										
325292			313327-7							
325286				324044-5						
325245							324153-5		324153-6	

†Major and minor axis of Twin W and Twin G type cables.



600 Volt Grounded

Applications:

- Drills
- · Shuttle cars
- Conveyors
- Power distribution
- Slusher hoists
- Motors
- · Heavy equipment
- Ship-to-shore power

Features:

- Grounded coupler machined manganese bronze hardware connected to ground contact
- Copper alloy contacts machined copper alloy D-shaped contacts provide additional set screw threads
- Field attachable quick field assembly requires standard tools with color-coded wiring terminals indicating proper conductor locations; dual set screw design enhances connection
- Quick disconnect couplers with "pin and groove" design support engagement and disengagement in just ³/₄ turn; couplers revolve freely on replaceable ball bearings
- Visual indicator green coupler marker identifies 600 volt product rating
- Watertight compression fit of neoprene components and cable hugging grommets provide a moisture-tight seal; positive water seal between mated connectors is provided by an o-ring type seal molded to the connector



600 Volt Grounded Plugs

"G" Series Quik-Loc™ product constructed with durable elastomeric compound, machined manganese bronze coupler, and copper alloy contact design.

Heavy duty ground spring provides sturdy circuit-to-ground contact and coupler to ensure electrical safety.

Certifications and Compliances:

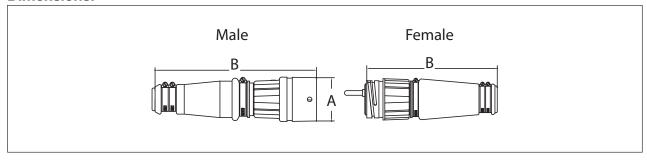
600 volt "G" Series CSA certified on File No. LR13963 for mining applications



Ordering Information - 600 Volt Grounded Plugs:

Max. Cable Size	Connector			Dimensions (Approximate Inches)		at. #	Protective Cap for Plug Receptacle Cat. #	
(AWG)	Cable Rating	Amps (600V)	A B M		Male	Female	Male	Female
For AC 3 Power	+ 1 Ground with	out Pilot Circuit Co	ontacts					
2/0	135	225	43/16	141/16	X8339-1G	X8339-2G	3325656-6	3325656-3
4/0	180	325	5	161/2	X8340-5G	X8340-4G	3325656-8	3325656-7
For AC 3 Power	+ 1 Ground with	Pilot Circuit Conta	acts					
8	35	75	4	13 ⁷ / ₁₆	X8343-5G	X8343-4G	3325656-2	3325656-1
4	65	125	37/8	13	X8344-5G	X8344-4G	3325656-4	3325656-3
2	90	160	43/16	141/16	X8345-5G	X8346-6G	3325656-6	3325656-5
2/0	135	225	45/8	1315/16	X8346-2G	X8646-1G	3325656-6	3325656-7
4/0	180	325	67/16	2115/16	X8347-2G	X8347-1G	3325656-8	3325656-9
400 MCM	250	500	77/16	291/16	X8348-3G	X8348-2G	3325656-10	3325656-11

†This is connector rating only. Operating rating must be based on cable capacity.



600 Volt Grounded Dust-tight Receptacles

The "G" Series Quik-Loc™ receptacle mates with attachable plug to ensure reliable electrical connection and environmental protection.

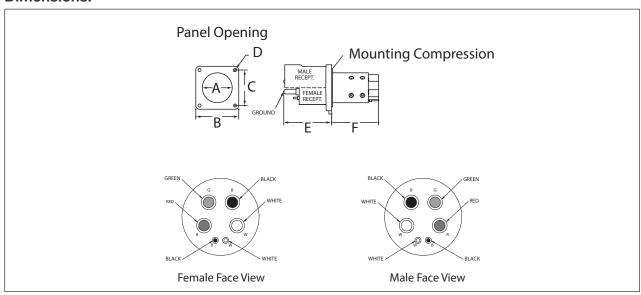
Certifications and Compliances:

 600 volt "G" Series CSA certified on File No. LR13963 for mining applications



Ordering Information - 600 Volt Grounded Dust-tight Receptacles:

Cat. #	Cat. #		sions (App	Pilot Short Circuiting Cap				
Male	Female	Α	В	С	D	E	F	or Fem. Rec. Cat. #
For AC 3 Power	r + 1 Ground without	Pilot Circuit	Contacts					
X8339-13C	X8339-3C	25/8	4	31/4	5/16	61/16	415/16	
X8340-2C	X8340-10C	3	41/2	31/2	3/8	61/2	51/16	
For AC 3 Power	r + 1 Ground with Pilo	t Circuit Cor	ntacts					
X8343-16C	X8343-12C	2	33/8	23/4	5/16	55/16	4	X8343-7
X8344-2C	X8344-1C	25/16	35/8	27/8	5/16	57/16	41/2	X8344-6
X8345-15C	X8345-10C	25/8	4	31/4	5/16	511/16	415/16	X8345-3
X8346-13C	X8346-8C	3	41/2	31/2	3/18	63/16	51/16	X8346-3
X8347-13C	X8347-8C	4	6	43/4	7/16	615/16	61/16	X8347-3
X8348-10B	X8348-7B	5	71/4	57/8	9/16	87/8	61/4	X8348-8



11P Quik-Loc™ Connectors

1000 Volt Grounded

The medium voltage Quik-Loc™ Connector was designed for service under the most severe mining conditions. The resilient elastomeric molded body, along with a uniquely grounded coupling, provide a tough, watertight, corrosion-resistant connection that is practically indestructible.

Features:

- Corrosion-resistant molded elastomeric components, manganese bronze couplings, stainless steel clamps, and copper alloy contacts are unaffected by most chemicals and acids
- Field attachable quick field assembly requires no special tools; color-labeled wiring terminals indicate proper conductor locations; set screws hold conductors in place; clamps secure protective sleeve over terminal area
- Quick disconnect couplers with "pin and groove" design revolve on low friction ball bearings, permitting positive engagement or disengagement in just ³/₄ turn; sealing rings under coupler protect grounding mechanism and bearings from dirt and grime, making the coupler easier to rotate
- Safe unique, positively grounded coupler and heavy elastomeric molded body and sleeve provide electrical protection; a reversed ground pin assures positive polarization
- Watertight compression fit of elastomeric components and a
 cable hugging grommet provide a moisture-tight seal; a positive
 water seal between mated connectors is provided by an o-ring
 type seal molded to the connector face; a double seal is provided
 by elastomeric shoulders around each male contact, which fit like
 a cork within the female socket



1000 Volt Grounded Plugs

The 1000 volt Quik-Loc™ Connector is constructed with durable elastomeric compound, machined manganese bronze coupler, and copper alloy contact design.

Heavy duty ground spring provides sturdy circuit-to-ground contact and coupler to ensure electrical safety.

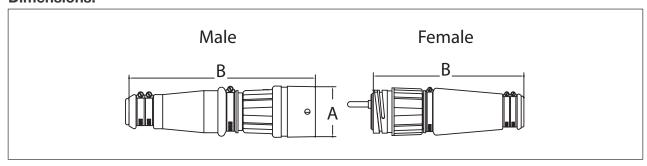
Manganese coupler thread with 165° design to prevent intermating with 600 volt product.



Ordering Information - 1000 Volt Grounded Plugs:

Cat. #	Max. Cable Size	90°C, 1000V I	90°C, 1000V Ratings		ons imate Inches)	Protective Cap for Plug or Receptacle Cat. #
Male	(AWG)	Cable Only Connector Only†		Α	В	Male
1000V for A	AC 3 Power + 1 Groun	d with Pilot Circu	uit Contacts			
568024-1	8	59	75	35/8	1113/16	3325656-2
568025-1	4	104	125	37/8	13	3325656-4
568026-1	2	138	160	43/16	141/16	3325656-6
568027-1	2/0	215	225	45/8	1315/16	3325656-8
568028-1	4 / 0	287	325	6	19%/16	3325656-10
568029-1	500 MCM	487	500	75/16	235/16	3325656-11

†This is connector rating only. Operating rating must be based on cable capacity.



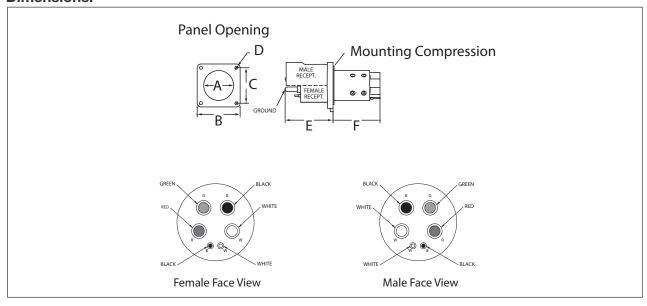
Manganese receptacle shell thread design with 165° design to prevent intermate with 600 volt product.



Ordering Information - 1000 Volt Dust-tight Receptacles:

Cat. #	Max. Cable Size	90°C	90°C, 1000V Ratings		ons imate Inches)	Protective Cap for Plug or Receptacle Cat. #
Female	(AWG)	Cable Only	Connector Only†	Α	В	Female
1000V for A	AC 3 Power + 1 Ground	with Pilot Circu	uit Contacts			
568024-2	8	59	75	35/8	1113/16	3326195
568025-2	4	104	125	37/8	13	3326196
568026-2	2	138	160	43/16	141/16	3326197
568027-2	2/0	215	225	45/8	1315/16	3326198
568028-2	4 / 0	287	325	6	199/16	3326199
568029-2	500 MCM	487	500	75/16	235/16	3325656-12

†This is connector rating only. Operating rating must be based on cable capacity.



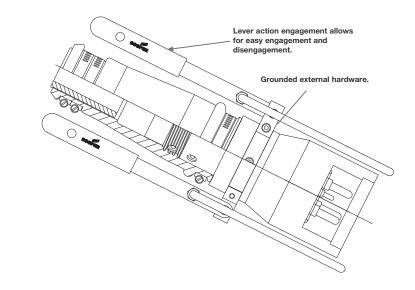
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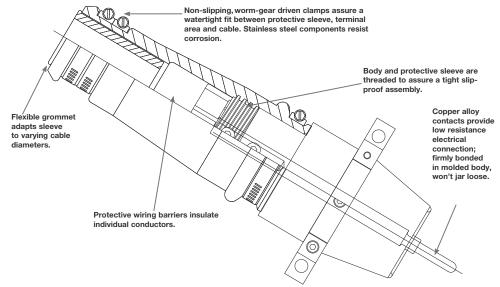
"L" Series Lever Action

Features:

- Quick disconnect lever action engagement allows for easy assembly and disassembly
- Safe grounded brackets connected to ground contact support electrical safety of plug and receptacle
- Protected contacts extended male shroud protects contacts while disengaged; recessed contacts prevent arcing and slip easy contact designs allows for maximum engagement while ensuring high conductivity
- Visual indicator color-coded plugs allow for quick identification for ampacity rating
- Corrosion-resistant stainless steel handles and levers resist corrosion
- Rugged neoprene body is impact- and chemical-resistant and designed to support rugged, harsh environments
- Intermateable fully intermateable with competitive lever style connectors







11P Quik-Loc™ Connectors

"L" Series Lever Action Plugs

The "L" Series Lever Action Connector is a one-piece neoprene molded body that provides rugged, durable, and reliable service. Color-coded male and female plugs support easy identification of circuit ampacity ratings.

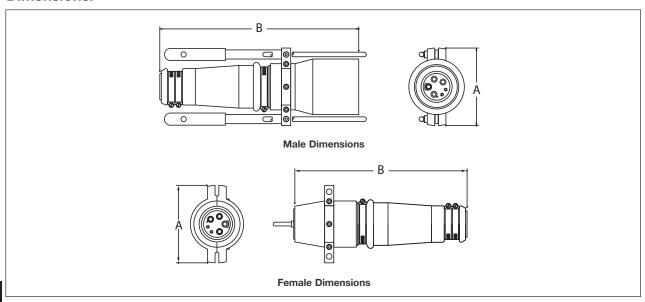
Certifications and Compliances:

• CSA certified on File No. LR13963



Ordering Information - "L" Series Lever Action Plugs:

Max. Cable	Connector Rating	Cat. #			Dimensions (Approximate Inches)				Protective Caps Cat. #	
Size (AWG)	600V	Male	Female	Male A	Male B	Female A	Female B	Color	Male	Female
8	75A	X8343-5L	X8343-4L	16³/ ₈	63/8	143/16	63/8	Blue	L-MAL-CAP-1	L-FEM-CAP-1
4	125A	X8344-5L	X8344-4L	16³/ ₈	63/8	143/16	6³/ ₈	Red	L-MAL-CAP-1	L-FEM-CAP-1
2	160A	X8345-5L	X8345-6L	16³/ ₈	6³/ ₈	143/16	63/8	Orange	L-MAL-CAP-1	L-FEM-CAP-1
2/0	225A	X8346-2L	X8346-2L	16¹/ ₈	6³/ ₈	16¹/ ₈	6³/ ₈	Black	L-MAL-CAP-1	L-FEM-CAP-2



"L" Series Lever Action Receptacles

The "L" Series female receptacle grounded shell, attached to the ground contact, ensures electrical safety.

The lever action receptacle shell provides easy assembly and disassembly with reduced effort.

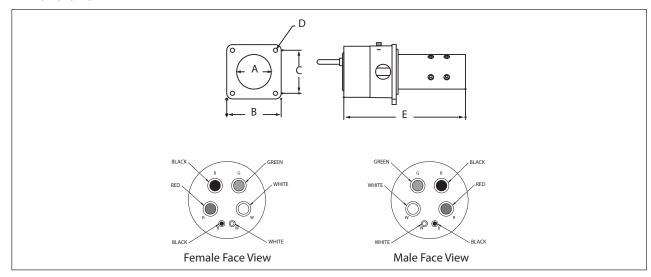
Certifications and Compliances:

• CSA certified on File No. LR13963



Ordering Information - "L" Series Lever Action Receptacles:

Max. Cable Size	Connector Rating	Cat. #		ensions roximat	e Inch	es)		_	Protective Caps Cat. #
(AWG)	600V	Female	Α	В	С	D	Е	Color	Female
8	75A	X8343-12L	2	311/16	23/4	9/32	79/16	Blue	L-FEM-CAP-1
4	125A	X8344-1L	25/16	311/16	27/8	9/32	81/8	Red	L-FEM-CAP-1
2	160A	X8345-10L	25/8	311/16	31/4	9/32	91/16	Orange	L-FEM-CAP-1
2/0	225A	X8346-8L	31/2	49/16	3	11/32	87/8	Black	L-FEM-CAP-2



11P Metallic Quik-Loc™ Connectors

Metallic Quik-Loc™ Plugs and Receptacles are designed for service under the most severe mining conditions. The sturdy metallic body and coupler provide a tough, watertight, and corrosion-resistant assembly for rugged and dependable service. The Lever Action Series Connectors provide for easy engagement.

Metallic Quik-Loc™ Receptacles mate with attachable plugs and are equipped with color-coded set screws and molded wiring barriers. Cast mounting shells and molded inserts protect against most environments. Panel mount receptacles are available in straight and angled configurations.

Features:

- Field attachable quick field assembly requires no special tools; color-coded set screws indicate proper conductor locations; set screws hold conductors in place to secure electrical connection
- Quick disconnect couplers with "pin and groove" design or lever action configuration support engagement and disengagement
- Safe all exposed metal components are epoxy coated for product safety
- Watertight positive water seal between mated connectors is assured by an o-ring type seal molded into the connector face
- Standard and lever action design versatile standard or lever action design available to support application needs
- Ground identification plug provides external "green ground" indicator marking to support ease of ground identification during assembly and engagement
- Replaceable hardware male and female contact replacement capability for damaged pins
- Intermateable mates with current Quik-Loc™ products

Certifications and Compliances:

• CSA certified - File No. 245585

Ordering Information - Plugs:

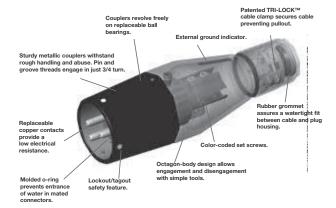
Cat. #	Description
CIJP225MS	Male Plug, Cable Mount
CIJP225FS	Female Plug, Cable Mount

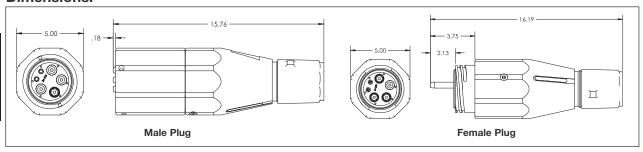
Metallic Quik-Loc™ Plugs

Metallic Quik-Loc™ Connectors provide electrical, mechanical, and environmental protection for 600 volt AC applications to 225 amperes (2 / 0 cable).







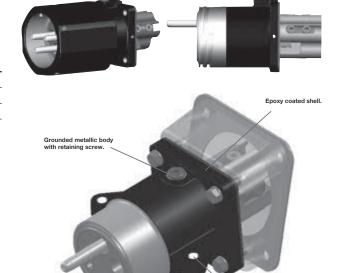


Certifications and Compliances:

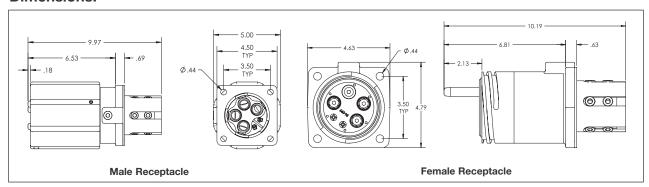
• CSA certified - File No. 245585

Ordering Information - Receptacles:

Cat. #	Description	
CIJR225MF	Male Receptacle, Panel Mount	
CIJR225FF	Female Receptacle, Panel Mount	
CIJR225ME	Male Receptacle, Angled Panel Mount	
CIJR225FE	Female Receptacle, Angled Panel Mount	



Environmental o-ring seal on molding.

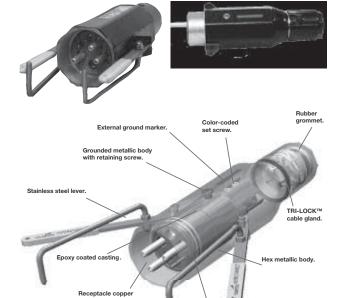


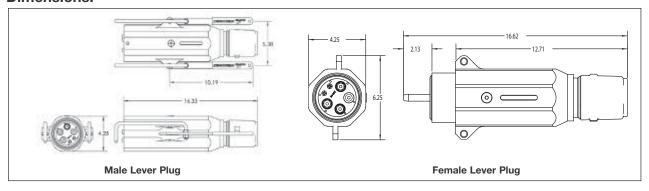
Certifications and Compliances:

• CSA certified - File No. 245585

Ordering Information - Lever Plugs:

Cat. #	Description	
CILP225MS	Male Plug, Lever Cable Mount	
CII P225FS	Female Plug Lever Cable Mount	





Certifications and Compliances:

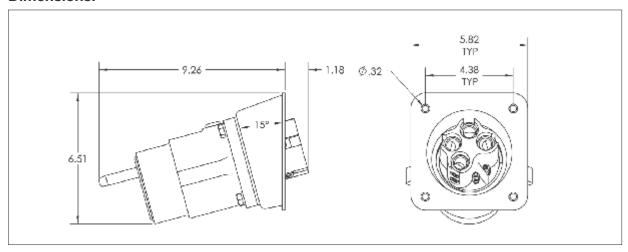
• CSA certified - File No. 245585

Ordering Information - Lever Receptacles:

Cat. #	Description
CILR225FF	Female Receptacle, Lever Panel Mount
CILR225FE	Female Receptacle, Lever Angled Panel Mount







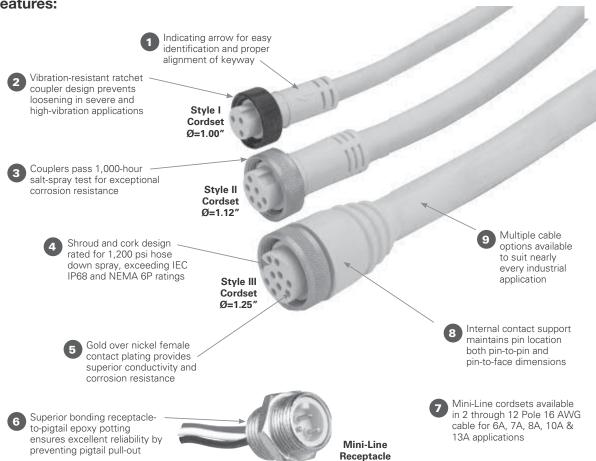
Mini-Line Cordsets and Receptacles are designed for modular use in abusive applications where cable assemblies are exposed to constant flexing and/or dirty, oily, or harsh environments.

Applications:

- Specifically designed for industrial automation applications in which power or signal connections are exposed to long-term physical stresses and subjected to liquids or oils
- Ideal for industrial manufacturing, production line equipment, packaging equipment, conveyors and assembly lines, plus food and beverage processing equipment
- Mini-Line connection points mean less downtime, easier maintenance, and increased safety by replacing traditional hard wiring with a plug-and-run modular pre-wired system
- These products have excellent resistance to welding flash, hot chips, and other severe conditions found in demanding manufacturing settings
- The molded-to-cable construction of the one-piece cordset ends creates a bond that is impervious to penetration from external



Features:



NEMA 1, 3, 4, 6P, 13

IFC IP68

Mini-Line Cordsets

Male and Female Cordsets

Features:

- Factory molded-to-cable cordsets provide quick connect capability
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed ends rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and
- Vibration-resistant ratchet couplers assure cordsets stay connected under load
- · Superior female contact design with stainless steel sleeve for minimal degradation
- End-to-cable molded junction securely bonds for excellent reliability
- Internal contact support maintains pin location and proper keyway alignment
- Shroud and cork design exceeds IP68 and NEMA 6P rating (rated 1,200 PSI hose-down spray)
- Easy stripping jacketed cable with "fillerless" design allows fast stripping with simple hand tools; high flex copper stranding delivers improved flexibility; multiple cable options

Certifications and Compliances:

• UL recognized, cURus, File No. E169897

Style I Male and Female Plugs

2-Pole: 13A; 3-Pole: 13A; 4-Pole: 10A; 5-Pole: 8A; 6-Pole: 6A

2, 3, 4, 5, 6 Conductor 16 AWG Standard Color Code

- · Cable options: STOOW or SOOW
- · Straight and right angle body designs
- Vibration-proof ratchet coupler design
- Zinc, nylon, and stainless steel coupler options
- Meets current SAE #H1738-2 specifications

Style II Male and Female Plugs

6-Pole: 8A: 7-Pole: 7A: 8-Pole: 7A

6, 7, 8 Conductor 16 AWG Standard Color Code

- Cable options: STOOW or SOOW
- Straight and right angle body designs
- Vibration-proof ratchet coupler design
- Zinc, nylon, and stainless steel coupler options
- Meets current SAE #H1738-2 specifications

Style III Male and Female Plugs

9-Pole: 7A; 10-Pole: 7A; 12-Pole: 7A 9, 10, 12 Conductor 16 AWG Standard Color Code

- · Cable options: STOOW or SOOW
- Straight and right angle body designs
- Vibration-proof ratchet coupler design
- Zinc, nylon, and stainless steel coupler options
- Meets current SAE #H1738-2 specifications



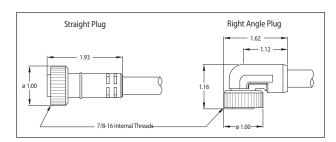
ML3C4WC030F Style I Female Plug

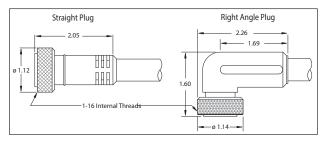


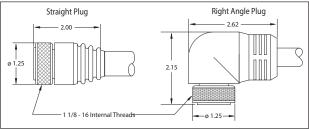
MLWC4WC030F Style II Female Plug



ML9C4WC030F Style III Female Plug







Pin Configurations and Color Coding:

Female Faces













Style II









Style III

Style III



Style III

10-Pole

Style III

Standard



Style III

Male Faces

Conductor

Color Coding



2-Pole

Style I

Standard

1. WHT

2. BLK

Style I

0 ② ③ 3-Pole Style I

Standard

1 GRN

2. BLK 3. WHT

3-Pole

Style I

Style I

Standard

1 BLK

2. WHT

3. RED

4. GRN

Style I

2 3 4 5-Pole Style I

Standard

1 WHT

2. RED

3. GRN

4. ORG

5. BLK

Style I

(3) 6-Pole Style I

Standard

1. WHT

2. RED

3. GRN

4. ORG

5. BLK

6. BLU

6 0 9 9

6-Pole

Style I

069 234 6-Pole Style II

1 ORG

2. BLU

3. BLK

4. WHT

5. RED

6. GRN

7-Pole Style II Standard

Standard 1. WHT/BLK 2. BLK 3. WHT 4. RED 5. ORG 6. BLU

7. GRN

Style II

8-Pole

Style II

Style II Standard 1. ORG

2. BLU 3. WHT/BLK 4. BLK 5. WHT 6. RED 7. GRN 8. RED/BLK

Standard 1. ORG 2. BLU 3. RED/BLK 4. GRN/BLK 5. WHT 6. RED

7. GRN

9 BLK

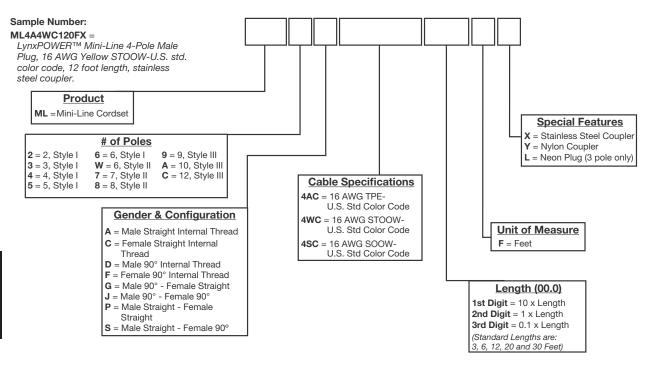
1 ORG 2. BLU WHT/BLK 4. RED/BLK 5. GRN/BLK 6. ORG/BLK 7. RED 8. WHT/BLK 8. GRN 9 BLK 10. WHT

12-Pole Style III

Standard

1 ORG 2. BLU 3. WHT/BLK 4. RED/BLK 5. GRN/BLK 6. ORG/BLK 7. BLU/BLK 8. BLK/WHT 9 GRN 10. RED 11. WHT 12 BI K

Mini-Line Cordset Catalog Number Matrix:



1P

Mini-Line Receptacles

Male and Female Receptacles

Features:

- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed connectors rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime
- Compact, space-saving receptacle bodies
- Superior female contact design with stainless steel sleeve for minimal degradation
- Receptacle-to-pigtail potting bonds securely for excellent reliability
- Internal contact support maintains pin location and proper keyway alignment
- Shroud and cork design exceeds IP68 and NEMA 6P rating (rated 1,200 PSI hose-down spray)

Certifications and Compliances:

• UL recognized, cURus, File No. E169897



MRWE4BC120A

MR3E4BC120A

Style I Male Receptacle

MR9E4BC120A Style III Male Receptacle

Style I Male and Female Receptacles 2-Pole: 13A; 3-Pole: 13A; 4-Pole: 10A; 5-Pole: 8A; 6-Pole: 6A

2, 3, 4, 5, 6 Conductor 16 AWG U.S. Standard Color Code

- Cable options: PVC single conductor flying leads
- 1/2"-14 NPT mounting threads
- Zinc, nylon, and stainless steel shell options
- Meets current SAE #H1738-2 specifications

Style II Male and Female Receptacles 6-Pole: 8A; 7-Pole: 7A; 8-Pole: 7A

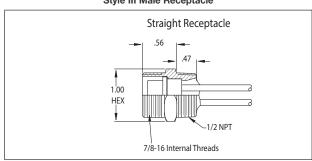
6, 7, 8 Conductor 16 AWG U.S. Standard Color Code

- Cable options: PVC single conductor flying leads
- 1/2"-14 NPT mounting threads
- Aluminum, nylon, and stainless steel shell options
- Meets current SAE #H1738-2 specifications

Style III Male and Female Receptacles

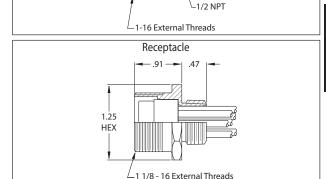
9-Pole: 7A; 10-Pole: 7A; 12-Pole: 7A 9, 10, 12 Conductor 16 AWG U.S. Standard Color Code

- Cable options: PVC single conductor flying leads
- 1/2"-14 NPT mounting threads
- Aluminum, nylon, and stainless steel shell options
- Meets current SAE #H1738-2 specifications



Receptacle

1.12 HEX



Mini-Line Receptacles

Pin Configurations and Color Coding:

Female Faces









Style I







Style II



Style II





Style III



Style III



Male Faces



Style I

Style I

0 0 4-Pole

Style I

10 10 2^{9} 5-Pole Style I

Style I

6-Pole

Style I

066 6-Pole Style I Style II

7-Pole Style II

8-Pole Style II

Style II

9-Pole

Style III

10-Pole Style III 12-Pole Style III

Style III

Conductor **Color Coding**

Style I Standard 1. WHT 2. BLK

Standard 1. GRN 2. BLK

Standard 1. BLK 2. WHT 3. RED 4. GRN

Standard 1. WHT 2. RED 3. GRN 4. ORG 5. BLK

Standard 1. WHT 2 RFD 3. GRN 4. ORG 5. BLK

Standard 1. ORG 2. BLU 3. BLK 4. WHT 5. RED 6. GRN

Standard 1. WHT/BLK 2 BIK 3. WHT 4. RED 5. ORG 6. BLU 7. GRN

Standard 1. ORG 2. BLU 3. WHT/BLK 4. BLK 5. WHT 6. RED 7 GRN 8. RED/BLK

Standard 1. ORG 2. BLU RED/BLK GRN/BLK 5. WHT 6. RED 7. GRN 8. WHT/BLK 9. BLK

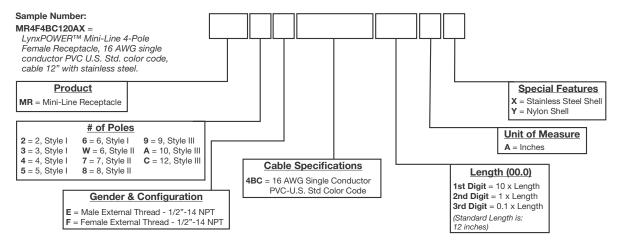
Standard 1. ORG 2. BLU 4. RED/BLK 5. GRN/BLK 6. ORG/BLK 7 RFD 8. GRN 9. BLK

10. WHT

Standard 1. ORG 2. BLU 4. RED/BLK 5. GRN/BLK 7 BLU/BLK 8. BLK/WHT 9. GRN 10. RED 11. WHT

12. BLK

Mini-Line Receptacles Catalog Number Matrix:



Style I Male-Female-Female Tee

Mini-Line Tees and Accessories

Mini-Line Tees and Accessories

Features:

- Modular components allow for easy expansion and reconfiguration without the need for rewiring; reduces installation time and lessens the need for special tools
- Factory molded tees offer quick and easy circuit branching options
- Field attachable connectors allow users to create custom cable lengths using their own cable
- Optional 316 stainless steel couplers support for food and beverage industry applications



MF4B1 Style I Male In-line Field Attachable

Certifications and Compliances:

• UL recognized, cURus, File No. E169897

Style I Tees

2-Pole: 13A; 3-Pole: 13A; 4-Pole: 10A; 5-Pole: 8A; 6-Pole: 6A

2, 3, 4, 5, 6 Conductor 16 AWG Tees Available

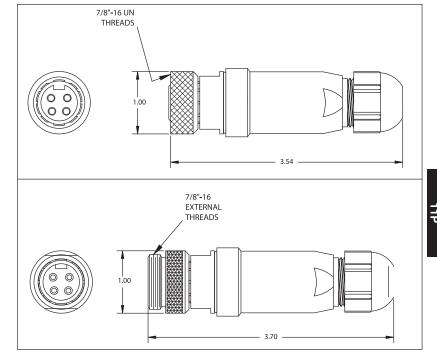
- Male and female plug connectivity
- Available with molded drop cable
- · Black and gray molded body options
- Zinc, nylon, and stainless steel coupler options available
- IP68

3.52 7/8-16 EXTERNAL THREADS 7/8-16 INTERNAL THREADS 1.23

Style I Field Attachables 2-Pole: 13A; 3-Pole: 13A; 4-Pole:

10A; 5-Pole: 8A; 6-Pole: 6A

- 3, 4, 5 Conductor Available to Support 16 AWG Cable
- Field attachables feature an impact-resistant PVC body
- Provide IP67 environment protection
- Nickel-plated brass coupler provides easy to use, durable connection
- IP67



3rd Digit = 0.1 x Length

(Leave blank if no cable)

(Standard Length is: 12 inches)

Mini-Line Tees Catalog Number Matrix: Sample Number: MT4RC4R = LynxPOWER™ Mini-Line 4-Pole Male to Female Tee With Female Drop Right Key Special Features X = Stainless Steel Coupler **Product** N = Nylon Coupler MT = Mini-Line Tee # of Poles **Unit of Measure** 2 = 2, Style I A = Inches 3 = 3, Style I (Leave blank if no cable) **4** = 4, Style I **5** = 5, Style I Wire Gauge Length (00.0) **6** = 6, Style I 4 = 16 AWG Cable **Drop Key Position** 1st Digit = 10 x Length L = Key Toward Male W = STOOW 2nd Digit = 1 x Length

R = Key Toward Female

S = SOOW

no cable)

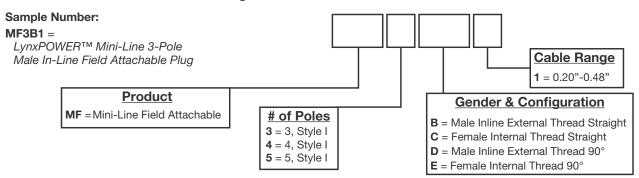
(Leave blank if

Mini-Line Field Attachable Catalog Number Matrix:

Gender & Configuration

RC = Male Inline - Female with

Female Drop



Ordering Information - Passive Accessories:

Mini-Line Caps

Description	Cat. #
ML1 Cap for Plugs	M1MC
ML2 Cap for Plugs	M2MC
ML3 Cap for Plugs	мзмс
ML1 Cap for Receptacles	M1FC
ML2 Cap for Receptacles	M2FC
ML3 Cap for Receptacles	M3FC

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Micro-Mini Cordsets and Receptacles

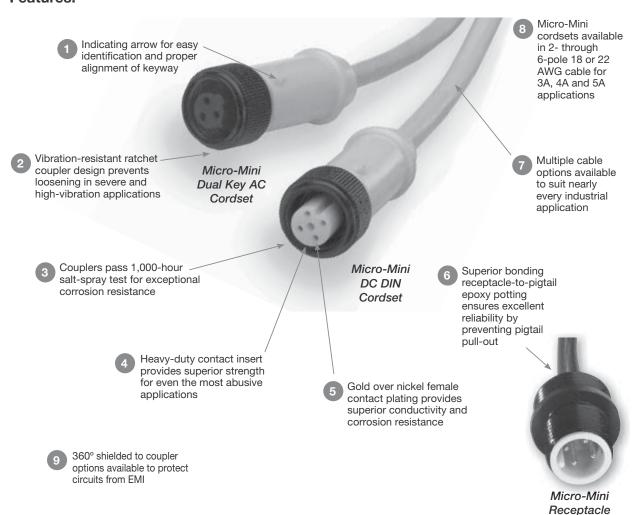
Micro-Mini Cordsets and Receptacles are specifically designed for sensor and control equipment used in today's manufacturing environments.

Applications:

- Specifically designed for industrial automation applications that expose signal connections to constant flexing and vibration, plus contaminants, hot chips, or welding flash
- Ideal for industrial manufacturing, production line equipment, pickn-place machines, robotic equipment, and processing sensors
- Designed specifically for low amperage AC or DC control systems, compatible with pin configurations used by major sensor manufacturers in the U.S. and Europe, and meet current SAE H1738-2 and IEC 60176-2-101 specifications
- The molded-to-cable construction of the one-piece cordset ends creates a bond that is impervious to penetration from external contaminants
- Receptacle shells are made from materials chosen to mate with Micro-Mini Cordsets and provide a cable assembly with far superior service



Features:

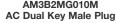


Male and Female Cordsets

Features:

- Designed for low amperage control systems in abusive manufacturing environments
- · Factory molded-to-cable ends provide quick connect capability
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed ends rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime; internal gasket assures watertightness
- · Vibration-resistant ratchet couplers assure cordsets stay coupled
- · Contact inserts securely bonded in place with a proprietary process; superior side load strength is in excess of 100 lbs., five times industry standards
- End-to-cable molded junction securely bonds for excellent reliability
- · Gold-plated contacts provide superior conductivity and corrosion resistance
- Easy stripping jacketed cable with "fillerless" design allows fast stripping with simple hand tools; high flex copper stranding delivers improved flexibility; multiple cable type options







AM5C3AG010M AC Dual Key Female Plug

Certifications and Compliances:

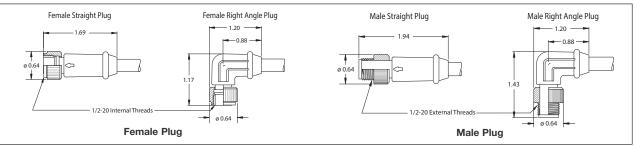
• UL recognized, cURus, File No. E169897

AC Dual Key, Male and Female Plugs

2-Pole: 4A; 3-Pole: 4A; 4-Pole: 4A; 5-Pole: 4A; 6-Pole: 3A / 300 VAC

2, 3, 4, 5, 6 Conductor 18 and 22 AWG U.S. AC Color Code

- Cable options: PVC (AWM) or TPE
- Straight and right angle body designs
- Vibration-proof ratchet coupler design
- · Zinc, nylon, and stainless steel coupler options
- Meets current SAE #H1738-2 specifications



AC Dual Key Pin Configurations and Color Coding: Male

Female Faces











5-Pole



6-Pole

6. RED/BLU



2-Pole





Dual Key AC Dual Key AC Dual Key AC Dual Key AC





6-Pole

6. RED/BLU

Conductor Color Coding

Standard 1 BRN 2. BLU

Standard 1 GRN 2. RED/BLK 3. RED/WHT

3-Pole

Standard 1 RFD/RLK 2. RED/WHT RED 4 GRN

4-Pole

Dual Key AC Dual Key AC Dual Key AC Dual Key AC Standard Standard 1 RFD/WHT 1. RED/WHT 2. RED 2. RED 3. GRN GRN 4 RFD/YFI 4 RFD/YFI 5. RED/BLK 5. RED/BLK

Conductor Color

Faces

Standard 1 BRN Coding 2. BLU

Standard 1 GRN 2. RED/BLK 3. RED/WHT

3-Pole

Standard 1 RFD/RLK RED/WHT 3. RED 4 GRN

2. RED 3. GRN 4 RFD/YFI

Standard Standard 1. RED/WHT 1 RFD/WHT 2. RED GRN 4 RFD/YFI 5. RED/BLK 5. RED/BLK

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Micro-Mini Cordsets DC Single Key

Male and Female Cordsets

Features:

- Designed for low amperage control systems in abusive manufacturing environments
- Factory molded-to-cable ends provide quick connect capability
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed ends rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime; internal gasket assures watertightness
- Vibration-resistant ratchet couplers assure cordsets stay coupled under load
- Contact inserts securely bonded in place with a proprietary process; superior side load strength is in excess of 100 lbs., five times industry standards
- End-to-cable molded junction securely bonds for excellent reliability
- Gold-plated contacts provide superior conductivity and corrosion resistance
- Easy stripping jacketed cable with "fillerless" design allows fast stripping with simple hand tools; high flex copper stranding delivers improved flexibility; multiple cable type options

Certifications and Compliances:

• UL recognized, cURus, File No. E169897

DC Single Key (M12), Male and Female Plugs

3-Pole: 4A; 4-Pole: 4A; 5-Pole: 4A / 3-Pole: 5A; 4-Pole: 5A / 300 VDC

2, 3, 4, 5 Conductor 18 and 22 AWG Euro DC Color Code

- Cable options: PVC (AWM) or SJOOW
- Straight and right angle body designs
- Vibration-proof ratchet coupler design
- · Zinc, nylon, and stainless steel coupler options
- Meets current IEC 61076-2-101 specifications



DM3B2ME010M DC Single Key Male Plug

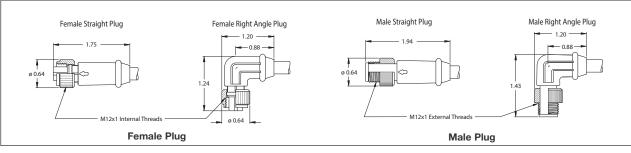


DM3F2ME010MN
DC Single Key Female LED Plug

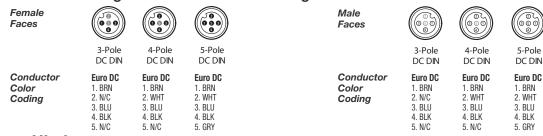
DC Single Key (M12), LED Female Plugs 3-Pole: 3A / 10-30 VDC

2, 3, 4, 5 Conductor 18 and 22 AWG Euro DC Color Code

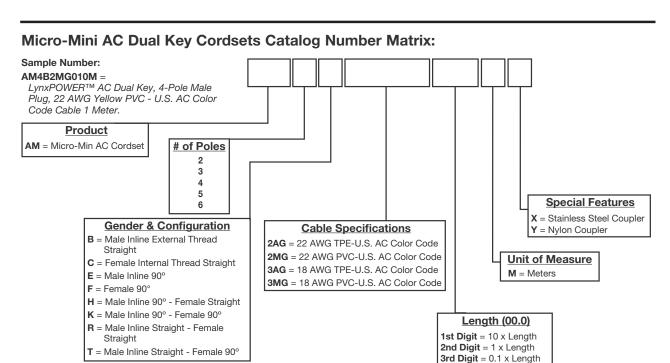
- Same options as DC single key male and female plugs
- Right angle body designs with PNP or NPN wiring



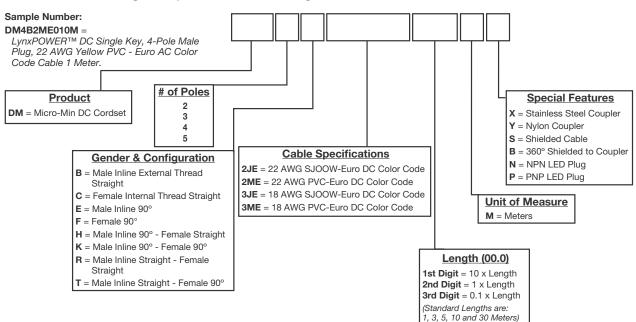
Micro DIN Pin Configurations and Color Coding:



(Standard Lengths are: 1, 3, 5, and 10 Meters)



Micro-Mini DC Single Key Cordsets Catalog Number Matrix:



AR3E2CG003M Male Receptacle



Micro-Mini Receptacles AC Dual Kev

Male and Female Receptacles

Features:

- Designed for low amperage AC control systems in abusive manufacturing environments
- · Available in straight designs with standard color coding in AWM / MTW style 1430 / 1569 leads
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed connectors rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime; internal gasket assures watertightness
- Contact inserts securely bonded in place with a proprietary process
- · Receptacle-to-pigtail potting bonds securely for excellent reliability
- Gold over nickel-plated contacts provide superior conductivity and corrosion resistance
- Internal contact support maintains pin location and proper keyway
- Internal gasket assures watertight performance to IP68 and NEMA

Certifications and Compliances:

• UL recognized, cURus, File No. E169897

AC Dual Key, Male and Female Receptacles

2-Pole: 4A; 3-Pole: 4A; 4-Pole: 4A; 5-Pole: 4A; 6-Pole: 3A / 300 VAC

2, 3, 4, 5, 6 Conductor 18 and 22 AWG U.S. AC Color Code

- Cable options: PVC single conductor flying leads
- 1/2"-14 NPT and 1/4"-18 NPT mounting threads available
- Aluminum, nylon, and stainless steel shell options
- Meets current SAE #H1738-2 specifications

AC Dual Key Pin Configurations and Color Coding:

Female Faces





3-Pole











2-Pole







5-Pole

Dual Key AC Dual Key AC Dual Key AC



Conductor Color Coding

Standard 1. BRN 2. BLU

Standard 1. GRN 2. RED/BLK 3 RED/WHT Standard 1. RED/BLK 2. RED/WHT 3 RFD 4. GRN

Standard 1. RED/WHT 2. RED 3 GRN 4. RED/YEL 5. RED/BLK

Dual Key AC Dual Key AC Dual Key AC Dual Key AC Standard 1. RED/WHT 2. RED 3 GRN 4. RED/YEL

6. RED/BLU

Color

Dual Key AC Dual Key AC Conductor Standard 1. BRN 2. BLU Coding

Standard 1. GRN 2. RED/BLK

3 RFD/WHT

Standard 1. RED/BLK 2. RED/WHT 3 RFD 4. GRN

Standard Standard 1. RED/WHT 1. RED/WHT 2. RED 2. RED 3. GRN 4. RED/YEL 3 GRN 4. RED/YEL 5. RED/BLK 5. RED/BLK 6. RED/BLU

Micro-Mini Receptacles DC Single Key

Male and Female Receptacles

Features:

- Designed for low amperage DC control systems in abusive manufacturing environments
- Available in straight designs with standard color coding in AWM / MTW style 1430 / 1569 leads
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed connectors rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime; internal gasket assures watertightness
- Contact inserts securely bonded in place with a proprietary process
- · Receptacle-to-pigtail potting bonds securely for excellent reliability
- Gold over nickel-plated contacts provide superior conductivity and corrosion resistance
- Internal contact support maintains pin location and proper keyway alignment
- Internal gasket assures watertight performance to IP68 and NEMA 6P ratings

Certifications and Compliances:

• UL recognized, cURus, File No. E169897

DC DIN, Male and Female Receptacles

3-Pole: 4A; 4-Pole: 4A; 5-Pole: 4A / 300 VDC

2. 3. 4. 5. 6 Conductor 18 and 22 AWG U.S. DC Color Code

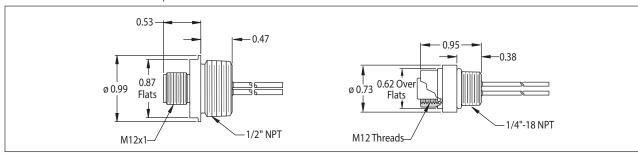
- Cable options: PVC single conductor flying leads
- 1/2"-14 NPT and 1/4"-18 NPT mounting threads available
- Aluminum, nylon, and stainless steel shell options
- Meets current IEC 61076-2-101 specifications



DR4E2CE00M Male Receptacle



DR4D2CE003M Female Receptacle



DC DIN Pin Configurations and Color Coding:

Female Faces



DC DIN



DC DIN









DC DIN



DC DIN



DC DIN

Conductor Color Coding

Euro DC 1. BRN 2. N/C 3. BLU 4. BLK 5. N/C Euro DC
1. BRN
2. WHT
3. BLU
4. BLK
5. N/C

DC DIN

Euro DC
1. BRN
2. WHT
3. BLU
4. BLK
5. GRY

Conductor Color Coding Euro DC 1. BRN 2. N/C 3. BLU 4. BLK

5. N/C

Euro DC 1. BRN 2. WHT 3. BLU 4. BLK

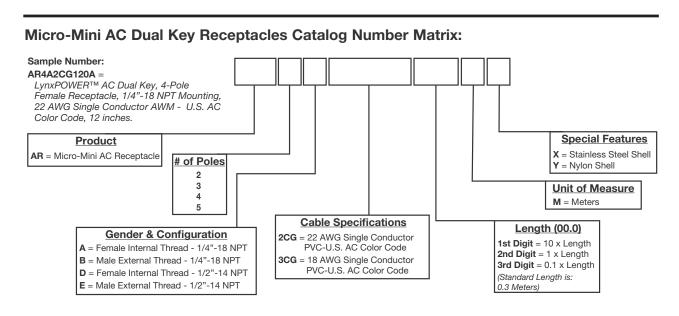
5. N/C

Euro DC 1. BRN 2. WHT 3. BLU 4. BLK

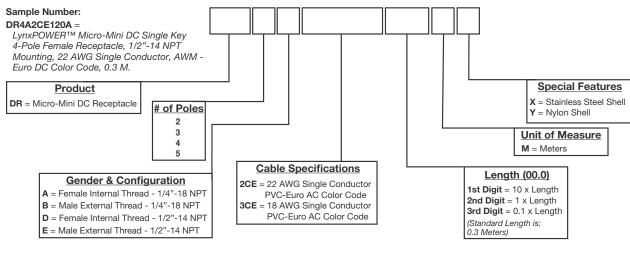
5. GRY

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Micro-Mini Receptacles



Micro-Mini DC Single Key Receptacles Catalog Number Matrix:



Micro-Mini Tees and Accessories

Micro-Mini AC Dual Key and **DC Single Tees**

Features:

- Factory molded tees offer quick and easy circuit branching options, eliminating the need for hard wired boxes
- Tees are available with molded-to-cable drops as well as molded wiring harnesses with multiple drops
- Compact body reduces the overall connectivity footprint
- Flexible gender configurations allow the user to customize the product to fit their application







DT4RC3R DC Single Key Male-Female-Female Tee

Micro-Mini AC Dual Key **Tapping Tees**

2-Pole, 3-Pole, 4-Pole, 5-Pole: 5A / 300V

2, 3, 4, 5 Conductor 18 AWG

- · Standard low profile configurations
- 18 AWG and 22 AWG standard color code
- 300V 105°C
- Epoxy coated zinc die cast hardware
- Meets current SAE #H1738-2 specifications
- Vibration-resistant ratchet design (die cast coupler)

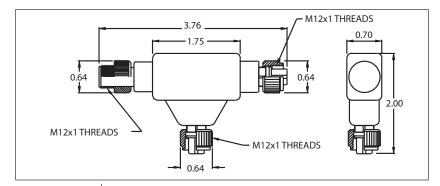
1/2-20 THREADS 3.76 1.91 1/2-20 THREADS 1/2-20 THREADS

Micro-Mini DC Single Key **Tapping Tees**

3-Pole, 4-Pole, 5-Pole: 5A / 300V

3, 4, 5 Conductor 18 AWG

- 18 AWG and 22 AWG standard color code
- 300V 105°C
- · Black epoxy coated hardware
- Meets current SAE #H1738-2 specifications



AC Dual Key Pin Configurations and Color Coding:

DC Single Key Pin Configurations and **Color Coding:**

Female Faces



Dual Key AC













5-Pole Dual Key AC

Male Faces



3-Pole



Dual Key AC Dual Key AC

5-Pole

Conductor Color Coding

Standard 1. BRN 2. BLU

Standard 1. GRN 2 RFD/BLK 3. RED/WHT

4-Pole Dual Key AC Dual Key AC Dual Key AC Standard 1. RED/BLK 2. RED/WHT 3. RED 4. GRN

Dual Key AC Standard 1. RED/WHT 2. RED 3. GRN 5. RED/BLK

Female Faces





DC DIN



Male Faces

Conductor

Color

Coding

DC DIN

3-Pole DC DIN

Euro DC

2. N/C

3. BLU

4 BLK

5. N/C

4-Pole DC DIN **Euro DC**

4. BLK

5. N/C

2. WHT 3. BLU

5-Pole DC DIN

DC DIN

Euro DC 2. WHT 3. BLU 4. BLK 5. GRY

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Micro-Mini Tees and Accessories

Micro-Mini AC Dual Key **Field Attachables**

Features:

- Field attachable connectors allow users to quickly repair damaged molded cordsets
- · Allow users to create custom cordset lengths using their own cable
- Optional 316 stainless steel couplers support food and beverage applications
- Easy to use set screw terminals provide secure conductor to contact termination





AF4B1 Male AC Field Attachable



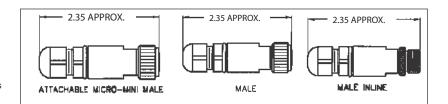
Female DC Field Attachable

Micro-Mini AC Dual Key **Field Attachables**

2-Pole, 3-Pole, 4-Pole, 5-Pole: 5A / 300V

2, 3, 4, 5 Conductor

- Female, male, and male in-line versions
- · Crimp style contact design
- Meets current SAE #H1738-2 specifications

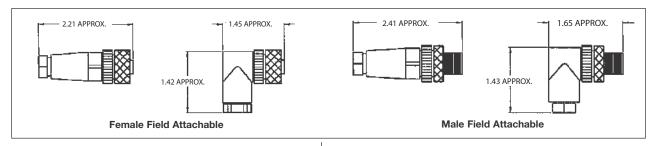


Micro-Mini DC Single Key Field Attachables

4-Pole: 4A / 300V: 5-Pole: 3A / 300V

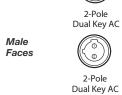
4, 5 Conductor

- PG7 and PG9 thread (grommet) sizes
- Female and male in-line versions
- Straight and right angle configuration
- · Terminal screw attachments
- Meets current SAE #H1738-2 specifications



AC Dual Key Pin Configurations and Color Coding:

DC Single Key Pin Configurations and **Color Coding:**



Female

Faces









Dual Key AC











Male





Faces

4-Pole DC DIN **Euro DC**

1. BRN

2. WHT

4. BLK

5-Pole DC DIN **Euro DC** 1. BRN

Conductor Color Coding

2. WHT 4. BLK 5. GRY

Color Coding

Conductor

by F:T·N

Standard 1. BRN 2. BLU

Dual Key AC Standard 1. GRN 2. RED/BLK 3. RED/WHT

3-Pole

Dual Key AC Standard 1. RED/BLK 2. RED/WHT 3. RED 4. GRN

4-Pole

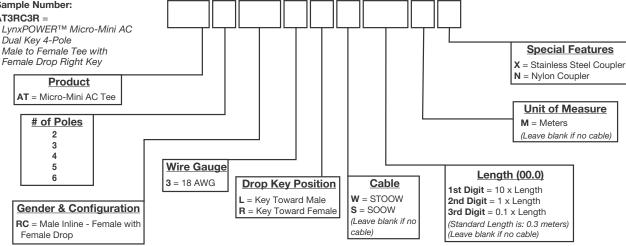
Dual Key AC Standard 1. RED/WHT 2. RED 3. GRN 4. RED/YEL

5-Pole

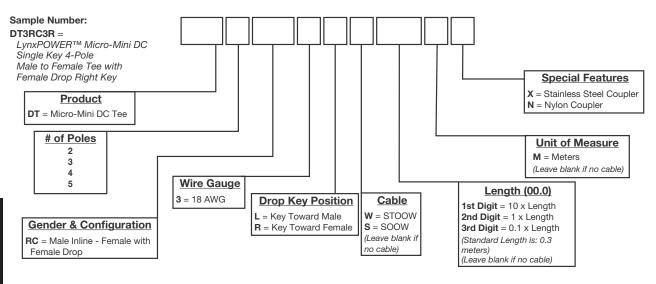
5. RED/BLK

Crouse-Hinds

Micro-Mini Tees and Accessories

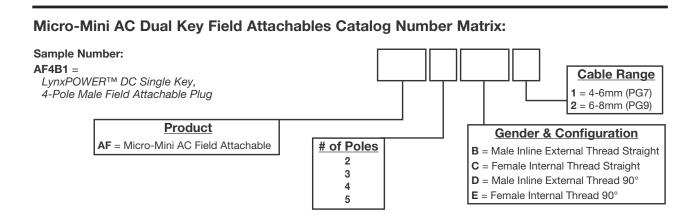


Micro-Mini DC Single Key Tees Catalog Number Matrix:

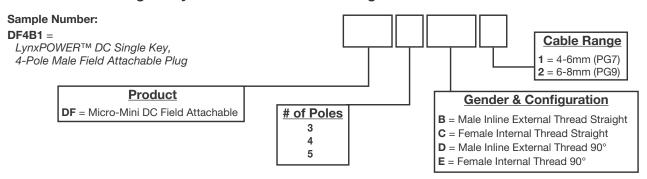


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Micro-Mini Tees and Accessories



Micro-Mini DC Single Key Field Attachables Catalog Number Matrix:



Ordering Information - Micro-Mini Accessories:

Micro-Mini AC Dual Key Caps

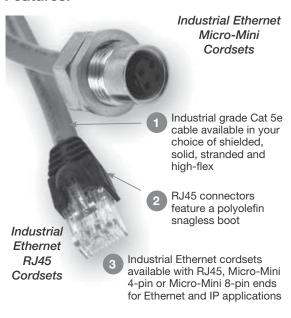
Description	Cat. #
Cap for Micro-Mini AC Dual Key Male Internal Thread	AMC
Cap for Micro-Mini AC Dual Key Female External Thread	AFC
Micro-Mini DC Single Key Caps	
Description	Cat. #
Cap for Micro-Mini DC Single Key Male Internal Thread	DMC
Cap for Micro-Mini DC Single Key Female External Thread	DFC

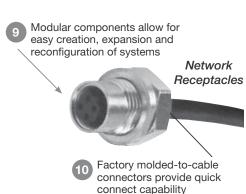
Applications:

- Ideal for industrial manufacturing, production line equipment, factory automation and production monitoring, plus industrial data networks
- These products have excellent resistance to welding flash, hot chips, and other severe conditions found in demanding manufacturing settings
- The molded-to-cable construction of the one-piece cordset ends creates a bond that is impervious to penetration from external contaminants
- Receptacle shells are made from materials chosen to mate with industrial network cordsets and provide a cable assembly with far superior service



Features:







- 6 Flexible high flex cable options ease installation and deliver signal without interruption
- Vibration-resistant couplers assure devices stay connected under load
- 8 Environmentally-sealed ends prevent the ingress of dust, water and other contaminants for superior service

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Industrial Ethernet Cordsets and Receptacles

RJ45 and Micro-Mini Cordsets and Receptacles

Features:

- Industrial Cat 5e cable
- Factory molded-to-cable connectors provide quick connect and disconnect capability
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed ends rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime
- Micro-Mini vibration-resistant ratchet couplers assure cordsets stay coupled under load
- Micro-Mini internal gasket assures watertight performance to IP68 and NEMA 6P ratings
- Compact, space-saving thermoplastic bodies
- Every unit is 100% electrically tested using state-of-the-art automated test equipment to stringent ANSI/TIA/EIA and ODVA specifications







EC4C1WE010M RJ45 to Receptacle



EC4F1WE010M 4-Pin Micro-Mini Male Cordset



ER4A1WE005M 4-Pin Micro-Mini Female Receptacle

RJ45 and RJ45 to Micro-Mini (M12) Cordsets

Ethernet Cordsets

Configuration Options:

RJ45 to RJ45

RJ45 to Female Panel Mount Receptacle (PG9)

RJ45 to Female 1/2"-14 NPT Receptacle

RJ45 to Male Panel Mount Receptacle (PG9)

- Straight design, double-ended configuration, receptacles have 4-pin or 8-pin options
- Cable: 24 AWG, 0.280" dia., meets TIA 568-B.2 specification for Ethernet physical layer
- Nickel-plated brass or stainless steel receptacle coupler options

RJ45 End SPECIFIED LENGTH 1.54 (39.14) RJ45 Snagless Boot Micro Female Receptacle End SPECIFIED LENGTH 1.54 (39.14) PG9 Thread RJ45 Snagless Boot RJ45 Snagless Boot

Micro-Mini (M12) Cordsets and Receptacles

Ethernet Cordsets

Configuration Options:

Male to Male Straight or Angled

Female to Female Straight or Angled

Male to Female Straight or Angled

- Double-ended configuration, 4-pin or 8-pin options
- Cable: 24 AWG, 0.280" dia., meets TIA 568-B.2 specification for Ethernet physical layer
- Black epoxy coated zinc, nickel-plated brass, or stainless steel coupler options

Ethernet Receptacles

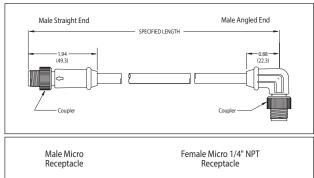
Configuration Options:

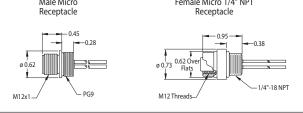
Female Internal Thread Panel Back Mount (PG9)

Male External Thread Panel Back Mount (PG9)

Female Internal Thread Panel Front Mount (1/2"-14 NPT)

- 4-pin or 8-pin options
- Black epoxy coated zinc, nickel-plated brass, or stainless steel shell options





Industrial Ethernet Cordsets and Receptacles

Pin Configurations and Color Coding:

RJ45 Face



Female Faces, Micro-Mini (M12)





Male Faces, Micro-Mini (M12)





Conductor Color Coding

Cat 5e 1. WHT/ORG (TX+) 5. -2. ORG (TX-) 6. BLU (RX+) 3. WHT/BLU (RX+) 7. -

Conductor Color Codina

Micro Cat 5e 1. WHT/ORG 2. WHT/BLU 3. ORG 4. BLU

Micro Cat 5e 1. LT BLU 2. LT BRN 3 RRN 4. ORG

5. LT GRN 6. WHT 7 RHI 8. GRN

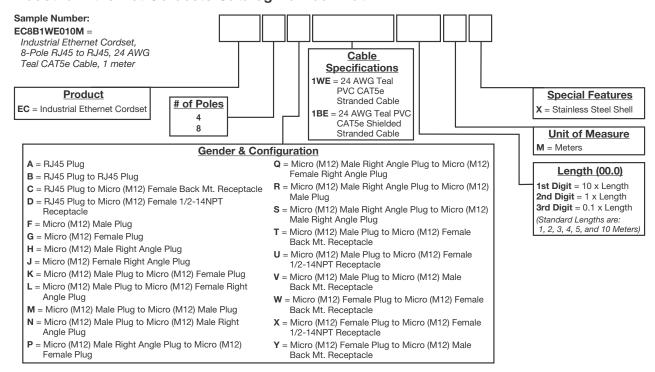
Micro Cat 5e Micro Cat 5e 1. WHT/ORG 2. WHT/BLU 3. ORG

4. BLU

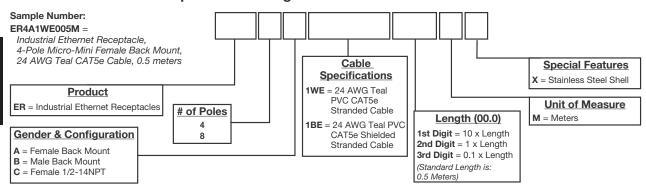
1. LT BLU 2. LT BRN 3 BRN 4. ORG

5. LT GRN 6. WHT 7. BLU 8. GRN

Industrial Ethernet Cordsets Catalog Number Matrix:



Industrial Ethernet Receptacles Catalog Number Matrix:



DeviceNet Trunk 300V AC/DC

DeviceNet Trunk Cordsets and Receptacles

Features:

- Industrial trunk or drop assembly cable
- Factory molded-to-cable connectors provide quick connect and disconnect capability
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed ends rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime
- Vibration-resistant ratchet couplers assure cordsets stay coupled under load
- Mini-Line shroud and cork design exceeds IP68 and NEMA 6P rating (rated 1,200 PSI hose-down spray)
- Compact, space-saving thermoplastic bodies
- Every unit is 100% electrically tested using state-of-the-art automated test equipment to stringent ODVA specifications

Certifications and Compliances:

• UL listing pending

Trunk Cordsets

5-Pole: 8A

5 Conductor:

- Male and female plugs
- Straight and right angle designs
- Single- and double-ended configurations
- Plug to back mount receptacle options
- Vibration-resistant ratchet coupler design
- Supports THIN, THIN HI-FLEX, MID, THICK, and THICK HI-FLEX cables
- Epoxy coated zinc and stainless steel coupler options
- IP68

Trunk Receptacles

5-Pole: 8A

5 Conductor:

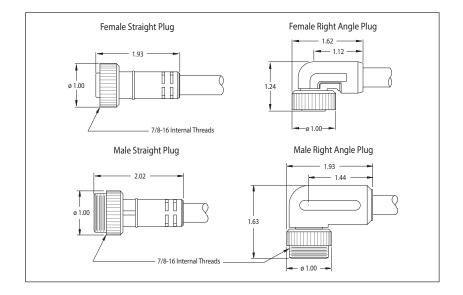
- Male and female receptacles
- Plug to back mount receptacle options
- Receptacle with cable only options
- Supports THIN, THIN HI-FLEX, MID, THICK, and THICK HI-FLEX cables
- M30 back mount or 1/2"-14 NPT front mount configurations
- Epoxy coated zinc and stainless steel shell options
- IP68

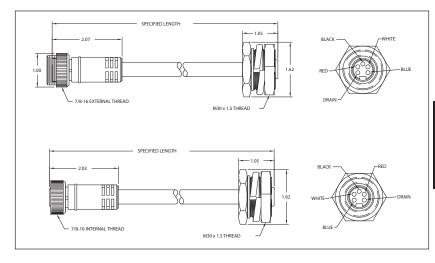




KC5EBTD050M Female Trunk

KC5JBTD050M Male 90° to Female Trunk





DeviceNet Trunk Cordsets and Receptacles 300V AC/DC

Mini Pin Configurations and Color Coding:

Female Face, Mini-I ine



5-Pole

Style I

Male Face, Mini-Line



5-Pole Style I

Conductor Color Coding

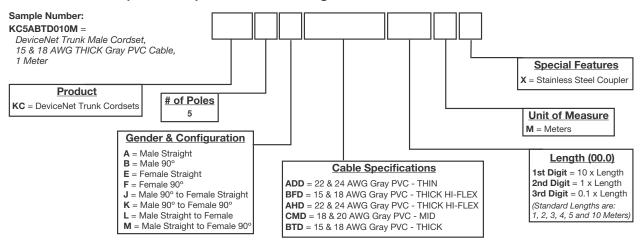
DeviceNet 1. DRAIN (bus shield) 2. RED (V+) 3. BLK (V-)

4. WHT (CAN_H) 5. BLU (CAN_L)

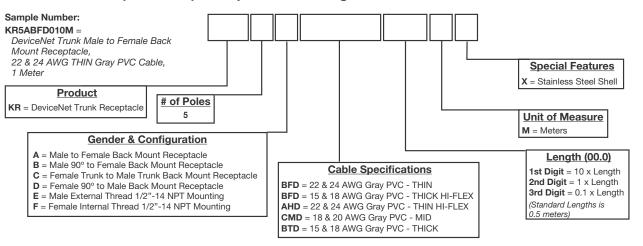
DeviceNet

1. DRAIN (bus shield) 2. RED (V+) 3. BLK (V-) 4. WHT (CAN_H) 5. BLU (CAN_L)

DeviceNet Trunk (Mini-Line) Cordsets Catalog Number Matrix:



DeviceNet Trunk (Mini-Line) Receptacles Catalog Number Matrix:



DeviceNet Drop 300V AC/DC

DeviceNet Drop Cordsets and Receptacles

Features:

- Industrial trunk or drop assembly cable
- Factory molded-to-cable connectors provide quick connect and disconnect capability
- Modular components allow for easy expansion and reconfiguration without the need for rewiring; eliminates the need for multiple cable assemblies, reduces installation time, reduces design time, and lessens the need for special tools
- Environmentally sealed ends rated at IP68 to prevent the ingress of dust, water, and other contaminants to reduce maintenance and downtime
- Vibration-resistant ratchet couplers assure cordsets stay coupled under load
- Micro-Mini internal gasket assures watertight performance to IP68 and NEMA 6P ratings
- Compact, space-saving thermoplastic bodies
- Every unit is 100% electrically tested using state-of-the-art automated test equipment to stringent ODVA specifications

Certifications and Compliances:

• UL listing pending

Drop Cordsets

5-Pole: 2A

5 Conductor:

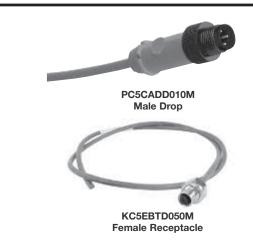
- Male and female plugs
- Straight and right angle designs
- Single- and double-ended configurations
- Plug to back mount receptacle options
- Vibration-resistant ratchet coupler design
- Supports THIN and THIN HI-FLEX cables
- Epoxy coated zinc and stainless steel coupler options
- IP68

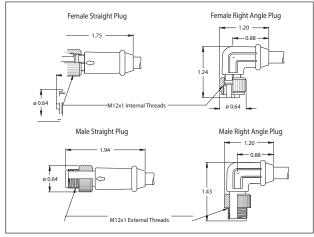
Drop Receptacles

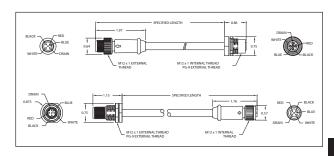
5-Pole: 2A

5 Conductor:

- Male and female receptacles
- Plug to back mount receptacle options
- Receptacle with cable only options
- Supports THIN and THIN HI-FLEX cables
- PG90 back mount or 1/2"-14 NPT front mount configurations
- Epoxy coated zinc and stainless steel shell options
- IP68







11P LynxPOWER™ Network Connectors

DeviceNet Drop Cordsets and Receptacles 300V AC/DC

Micro Pin Configurations and Color Coding:

Female Face, Micro-Mini (M12)



DC DIN

Male Face, Micro-Mini (M12)



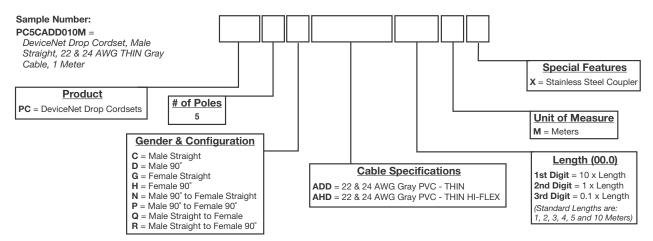
5-Pole DC DIN

Conductor Color Coding DeviceNet
1. DRAIN (bus shield)
2. RED (V+)
3. BLK (V-)
4. WHT (CAN_H)
5. BLU (CAN_L)

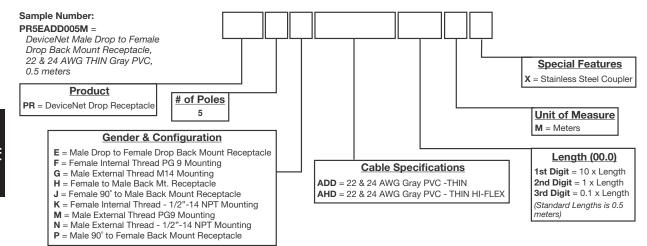
DeviceNet

1. DRAIN (bus shield)
2. RED (V+)
3. BLK (V-)
4. WHT (CAN_H)
5. BLU (CAN_L)

DeviceNet Drop (Micro-Mini) (M12) Cordsets Catalog Number Matrix:



DeviceNet Drop (Micro-Mini) (M12) Receptacles Catalog Number Matrix:



4

DeviceNet Tees

Tees

Features:

- Modular components allow for easy expansion and reconfiguration without the need for rewiring; reduces installation time and lessens
- · Factory molded tees offer quick and easy circuit branching options, eliminating the need for hard wired junctions
- · Compact body reduces the overall connectivity footprint
- Tees are available with nolded-to-cable drops as well as molded wiring harnesses with multiple drops
- Flexible gender configurations allow the user to customize the product to fit their application
- Optional 316 stainless steel couplers support food and beverage industry applications

Trunk Tees

5-Pole: 8A

5 Conductor:

- · Male and female plug connectivity
- Available with THIN, THIN HI-FLEX, MID, THICK, and THICK HI-FLEX molded drop cable options
- · Multiple trunk and drop configurations to choose from
- Epoxy coated zinc, nylon, and stainless steel coupler options available
- IP68

Drop Tees

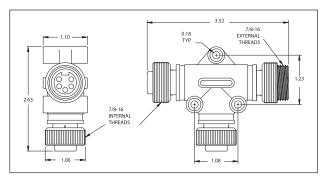
3-Pole, 4-Pole, 5-Pole: 5A / 300V

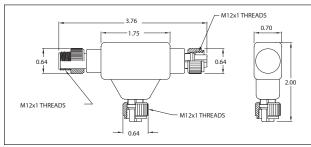
5 Conductor:

- · Male and female plug connectivity
- · Available with THIN and THIN HI-FLEX molded drop cable options
- · Epoxy coated zinc, nylon, and stainless steel coupler options available
- IP68



KT5RCRB PT5RCRA Male-Female-Female Trunk Tee Male-Female-Female Drop Tee





Trunk Tee DC Pin Configurations and **Color Coding:**

Female **Faces**

> 5-Pole Style I

Male **Faces**



5-Pole Style I

Conductor Color Coding

Euro DC

1. DRAIN (bus shield) 2. RED (V+) 3. BLK (V-)

4. WHT (CAN_H) 5. BLU (CAN_L)

Drop Tee DC Pin Configurations and Color Coding:

Female Faces



5-Pole DC DIN

Male **Faces**



5-Pole DC DIN

Conductor Color Coding

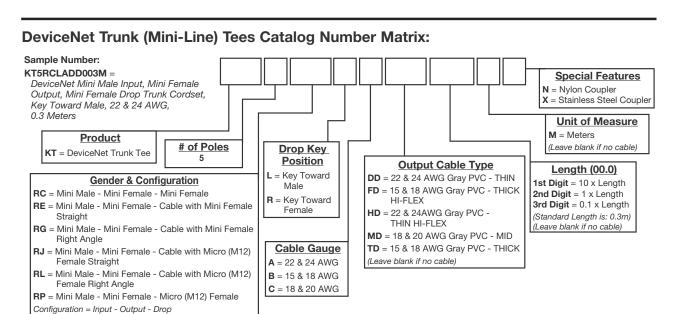
Euro DC 1. DRAIN (bus shield)

2. RED (V+) 3. BLK (V-)

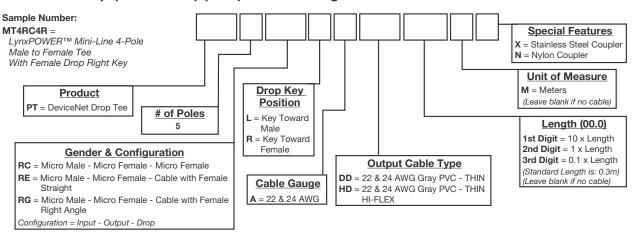
4. WHT (CAN_H) 5. BLU (CAN L)

Crouse-Hinds

DeviceNet Tees



DeviceNet Drop (Micro-Mini) (M12) Tees Catalog Number Matrix:



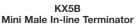
DeviceNet Accessories

Accessories

Features:

- Field attachable connectors allow users to quickly repair damaged molded cordsets and to create custom cordset lengths using their own cable
- Easy to use set screw terminals on field attachables provide secure conductor to contact termination
- Terminators are designed to minimize communication reflections







PX5B Male Drop Terminator

Terminators

5-Pole: 8A

5 Conductor:

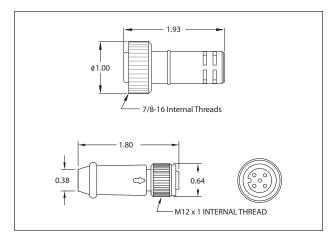
- · Male and female options
- Manufactured with a 121 Ω resistor between CAN_H and CAN_L
- Multiple trunk and drop configurations
- Epoxy coated zinc coupler available
- IP68

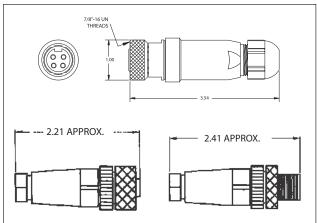
Field Attachables

3-Pole, 4-Pole, 5-Pole: 5A / 300V

5 Conductor:

- Impact-resistant PVC body
- Supports THIN, THIN HI-FLEX, MID, THICK, and THICK HI-FLEX cables
- Nickel-plated brass coupler provides easy to use, durable connection
- IP67





Ordering Information - Network Accessories:

Terminators, Attachables, and Caps

Product	Description	Cat. #
Trunk Terminator	Male Trunk Terminator	KX5B
	Female Trunk Terminator	KX5C
Drop Terminator	Male Drop Terminator	PX5B
	Female Drop Terminator	PX5C
Trunk Field Attachable	Male In-line Trunk Field Attachable Plug	KF5B
	Female Trunk Field Attachable Plug	KF5C
Drop Field Attachable	Male In-line Drop Field Attachable Plug	PF5B
	Female Drop Field Attachable Plug	PF5C
Caps	Internal Thread Cap for Male Trunk	KMC
	External Thread Cap for Female Trunk	KFC
	Internal Thread Cap for Male Drop	PMC
	External Thread Cap for Female Drop	PFC