

Receptacles and Plugs: Explosionproof

For use with Threaded Metal Conduit.



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Receptacles and Plugs: Explosionproof

For use with Threaded Metal Conduit.

Applications

- Locations where receptacles are used with stationary or portable electrically operated devices such as lighting systems, conveyors, heaters, motor-generator sets, air conditioners, compressors and pumps.
- Locations where damp or corrosive conditions are encountered.
- Class I- classified areas such as petrochemical plants, petroleum refineries, paint and chemical plants or any location where ignitable vapors or gases are present.
- Class II- locations such as process industries where there are dust hazards from handling such products as flour, grain and starch or any location where ignitable amounts of dust are present or amounts which would adversely affect performance.

Features

- Appleton's U-Line ECP/NCP plug mates with Killark® "UGR" Series and Crouse-Hinds® "ENR" Series receptacles (See page L-4).
- Factory sealed- external seals not required (except EBR, EBRH, DBR, FSQX, JBR, MD2SR). Arcing, if any, is safely confined to receptacle interior.
- U-Line® offers choice of aluminum receptacle with malleable iron mounting box or all malleable iron receptacle and box.
- Energized receptacle contacts deeply recessed to reduce danger of accidental touching.
- Positive polarization: only plugs of the same style, number of poles and ampere rating may be used with these receptacles.
- Grounding through extra pole and shell for extra safety.
- Spring door keeps dust out of receptacle when plug is not in use (CPS, CES/CESD, EBR, EBRH, DBR MD2SR and JBR). U-line® receptacle is supplied with spring door with hinge at top, which may be rotated 180° or completely removed. (See page L-4 for full description of U-Line® features.) FSQX has screw cap fastened to chain.
- Unique design brass contacts exert constant pressure along entire contact surface and provide superior electrical contact.

Class I, II, III



**U-Line® /
Contender®
U-Line
20 Ampere,
Dead Front**



**FSQX
30 Ampere,
Interlocked
Switch and
Cover,
Dead Front**



**JBR
30- and 60-
Ampere,
Interlocked
Disconnect
Switch,
Dead Front**

**EBRH, EBR
30-, 60-, and 100-Ampere,
Interlocked, Disconnect
Switch or Interlocked
Circuit Breaker, Dead Front**



**EFSR-GFI / ENR-GFI
Factory Sealed, Explosionproof,
Dust-Ignitionproof, Ground Fault
Circuit interrupter**



Class II, III



**DBR
30-, 60-, and 100-Ampere,
Interlocked Disconnect
Switch or Interlocked
Circuit Breaker, Dead Front**

Class I



**CPS®
20 Ampere,
Dead Front**

**Contender®
CPS® 20 Ampere
Delayed Action**



**CES / CESD
30- and 60-
Ampere, Delayed
Action, Dead
Front**

**CPS®-GFI
Factory Sealed,
Explosionproof,
Ground Fault
Circuit Interrupter**



**MD2SR
Interlocked
Switched
Receptacle**



Receptacles and Plugs: Explosionproof

For use with Threaded Metal Conduit.

- U-Line® has blade-type contacts. FSQX, CPS, CES/CESD, EBR, EBRH, MD2SR and DBR contacts have beryllium copper wire springs.

- Positive mechanical cable clamps prevent strain on cables they meet or exceed U.L. strain relief pull-out requirements.

- Neoprene bushing compressed by cable collar prevents entrance of water.

- Insulators provide greatest dielectric and mechanical strength, lowest moisture absorption, and lowest "arc tracking."

- Smooth, rounded integral bushing in each hub protects conductor insulation. (EBR, EBRH, MD2SR and DBR have tapped conduit openings.)

- U-Line and CPS: "Dead Front" construction. To operate, insert plug and rotate. Rotation of plug activates switch to ON position during plug insertion and to OFF position during plug withdrawal.

- U-Line and Contender U-Line are both intermateable with the Crouse-Hinds ENP plugs of like configurations. Contender U-Line receptacles are UL Classified to mount on Crouse-Hinds EDS boxes.

- Special U-Line receptacles are UL Classified to mount on Killark SWB boxes.

- Contender CPS receptacles are intermateable with the Crouse-Hinds CPP516 plug. CPP plug is intermateable with the Crouse-Hinds CPS receptacle.

- FSQX: "Interlocked Switch and Cover" offers double protection—plug cannot be inserted or removed unless switch is in OFF position. Interlock device in the cover breaks circuit when locking screw is backed down for cover removal. To operate, insert plug and turn switch to ON position.

- CES/CESD: "Delayed Action" construction. To operate, insert plug to first stop, move Slide-Lok® slide to right and push plug fully forward.

- EBRH/DBR/JBR: "Interlocked Disconnect Switch" provides safe connect and disconnect operation at 30, 60 or 100 ampere, 600VAC maximum. Two or three pole, non-fused motor circuit switch. EBRH permits safe operation in Class I, Group B as well as Class I, Groups C and D, Class II, Groups F, G, and Class III (DBR in Class II and III only).

- EBR/DBR: "Interlocked Circuit Breaker" provides interlocked connect and disconnect operation as well as short circuit and thermal time delay overload protection.

- EBR, EBRH, DBR, JBR: To operate, insert plug (which automatically locks into receptacle) and turn Breaker Handle to ON position. To remove plug, turn Handle to OFF position, lift Plug Release Knob and pull plug out.

- ECC Cord Connector permits connecting a portable extension cord to an explosionproof enclosure.

- ECP plug fits any standard U-Ground non-explosionproof receptacle (NEMA 5-15R, 5-20R, or 6-20R) as well as U-Line explosionproof receptacles.

- ACP plug fits Powertite® Series non-hazardous location ADR receptacles (see Catalog Section D) as well as EBR, EBRH, JBR, MD2SR and DBR hazardous location receptacles.

- CPH plug fits Powertite® Series non-hazardous location receptacles (see Catalog Section D) as well as CES/CESD and EBR, EBRH, JBR, MD2SR and DBR hazardous location receptacles.

Standard Materials

- U-Line, CPS, CES/CESD: copper-free aluminum receptacle and cover with malleable iron mounting box.

- U-Line M series: Malleable iron receptacle and mounting box.

- FSQX: malleable iron body with copper-free aluminum screw covers.

- EBR, EBRH, JBR, MD2SR and DBR: copper-free aluminum receptacle and mounting box.

- ECP, CPH, ACP, FP, CPP Plugs: copper-free aluminum housings.

- ECC cord connectors: copper-free aluminum housing and fiber glass reinforced polyester interior.

- Insulating blocks: U-Line®, CES/CESD, EBR, EBRH and DBR, ECP, CPH, ACP—fiber glass reinforced polyester. FSQX, CPS, CPP, FP—phenolic.

Standard Finishes

- Malleable iron mounting boxes: triple-coat-(1) zinc electroplate, (2) dichromate and (3) epoxy powder coat.

- U-Line receptacles and EBR, EBRH and DBR receptacles and mounting boxes: Epoxy powder coat.

- FSQX: malleable iron receptacles: triple-coat-(1) zinc electroplate, (2) dichromate and (3) epoxy powder coat.

- CPS aluminum receptacles: epoxy powder coat.

- CES/CESD aluminum receptacles: ceramic burnished.

- Cord connector housings and caps: epoxy powder coat.

Options:

- U-Line all-aluminum receptacle cover and box. Suffix—A.

- Contender U-Line and CPS. Suffix—SA.

- U-Line and CPS receptacles only available for use in combination with two thru five gang EFD boxes incorporating such devices as pilot lights, switches and push buttons. See Catalog Sections M and N.

- Special Polarization: Standard receptacles, plugs and connectors have positive polarization, which ensures that only plugs of the same style, number and ampere rating can be used together. In installations where there are different line voltages, the SPECIAL POLARIZATION option is desirable. This allows only plugs and receptacles wired for the same line voltage to be mated together. The receptacle interior is positioned 22-1/2°, relative to the polarization rivet, to the right (as specified) of standard, and plug is polarized to correspond. This makes it impossible to mate plugs and receptacles of dissimilar voltages. This option can be added to receptacles using the PowerTite® Plug (JBR, EBR, DBR Series). Suffix -P4.

Accessory:

- CPS corrosion resistance kit. Order CPS233RXKIT (For CPR23 only).

- U-Line corrosion resistance kit. order ULINEREC4XKIT.

Compliances:

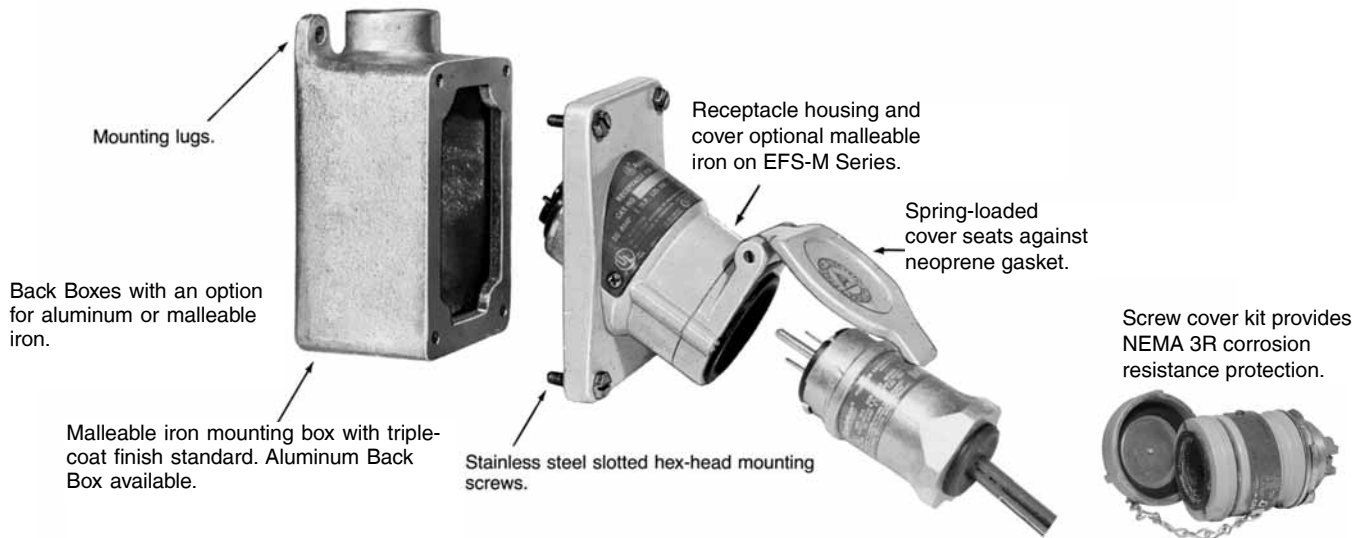
- UL Standard 1010, 894, 1682, 1686

- Appleton malleable iron products conform to ASTM A47-77, Grade 32510, which has the following properties: tensile strength, 50,000 psi; yield, 32,000 psi; and elongation, 10%.

- Appleton aluminum products are produced from a high strength copper-free (4/10 of 1% max.) alloy.

20 Amp U-Line® and Condender U-Line Factory Sealed Receptacles and Plugs: Explosionproof, Dust-Ignitionproof

For use with Threaded Metal Conduit.



Cover may be used with hinge at top (standard) or rotated 180° to put hinge at bottom. Stainless steel cover spring-completely enclosed for protection from corrosive environments.

With plug in use, neoprene gasket in throat of receptacle "seals" around plug keeping out dirt, water, dust and other foreign matter.



With plug not in use, spring-loaded door seats against neoprene gasket to seal receptacle from corrosive atmospheres.



Factory sealed receptacle/switch interior. Switch is an integral part of receptacle interior, contained in an aluminum sleeve. Protective xylan coating on inside of sleeve provides smooth "rotating" action of internal switch, which is activated by rotating plug in receptacle. Entire aluminum sleeve is sealed at both ends with neoprene O-rings to protect receptacle/switch interior against moisture.

*For Convenience...*ECP Interchanger™ Plug fits ordinary location receptacles (NEMA 5-20 or 15 and NEMA 6-20) and explosionproof U-Line Receptacle as well as Killark® "UGR" Series and Crouse-Hinds® "ENR" Series.



Ordinary receptacle

For Safety... Ordinary location plug will NOT activate explosion-proof U-Line Receptacle.



Ordinary plug

Heavy duty cable grip—exceeds UL 150-lb. pull-out test for classified locations.



A twist of the plug produces audible "click" to indicate fast make and break of built-in switch contacts. Twisting plug locks it in place—cannot be accidentally pulled out.

Special neoprene watertight plug bushing accommodates flexible cord ranging from .538" to .639" in diameter.

Solderless lugs—all terminals are pressure type to facilitate wiring.

Longer plug housing for better gripping and easier plug insertion and withdrawal.

U-Line® Intermateability Chart

The Appleton “ECP” Model “D” Plug and “EFS” and “ENR” Receptacles are UL Listed Combinations. The Appleton “ECP” Model “D” Plug with Killark® UL Listed “UGR” Series Receptacles or with Crouse-Hinds® UL Listed “ENR” Series Receptacles are UL Classified Combinations.

Appleton Plug Rating	Model D Appleton Plug Cat. No.	Receptacle Rating	U-Line® Receptacle Cat. No.	Contender® U-Line® Receptacle Cat. No.	Killark Receptacle Cat. No.	Crouse-Hinds Receptacle Cat. No.	No. of Conduit Openings	Hub Size, In.	No. of Gangs
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFSR-2023	ENR-5201	UGR0-20231	ENR-5201	–	–	–
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFS150-2023	ENR-11201	UGR1-20231	ENR-11201	1	1/2	1
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFS175-2023	ENR-21201	UGR2-20231	ENR-21201	1	3/4	1
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFS110-2023	ENR-31201	UGR3-20231	ENR-31201	1	1	1
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFSC150-2023	ENRC-11201	UGR4-20231	ENRC-11201	2	1/2	1
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFSC175-2023	ENRC-21201	UGR5-20231	ENRC-21201	2	3/4	1
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFSC110-2023	ENRC-31201	UGR6-20231	ENRC-31201	2	1	1
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFS250-2023	ENR-12201	UGR7-20231	ENR-12201	1	1/2	2
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFS275-2023	ENR-22201	UGR8-20231	ENR-22201	1	3/4	2
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFS210-2023	ENR-32201	UGR9-20231	ENR-32201	1	1	2
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFSC250-2023	ENRC-12201	UGR10-20231	ENRC-12201	2	1/2	2
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFSC275-2023	ENRC-22201	UGR11-20231	ENRC-22201	2	3/4	2
125V,20A,1HP	ECP-2023								
125V,15A,1HP	ECP-1523	125V,20A,1HP	EFSC210-2023	ENRC-32201	UGR12-20231	ENRC-32201	2	1	2
125V,20A,1HP	ECP-2023								
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFSR-20232	ENR-6202	UGR0-20232	ENR-6202	–	–	–
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFS150-20232	ENR-11202	UGR1-20232	ENR-11202	1	1/2	1
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFS175-20232	ENR-21202	UGR2-20232	ENR-21202	1	3/4	1
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFS110-20232	ENR-31202	UGR3-20232	ENR-31202	1	1	1
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFSC150-20232	ENRC-11202	UGR4-20232	ENRC-11202	2	1/2	1
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFSC175-20232	ENRC-21202	UGR5-20232	ENRC-21202	2	3/4	1
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFSC110-20232	ENRC-31202	UGR6-20232	ENRC-31202	2	1	1
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFS250-20232	ENR-12202	UGR7-20232	ENR-12202	1	1/2	2
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFS275-20232	ENR-22202	UGR8-20232	ENR-22202	1	3/4	2
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFS210-20232	ENR-32202	UGR9-20232	ENR-32202	1	1	2
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFSC250-20232	ENRC-12202	UGR10-20232	ENRC-12202	2	1/2	2
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFSC275-20232	ENRC-22202	UGR11-20232	ENRC-22202	2	3/4	2
250V,20A,2HP	ECP-20232	250V,20A,2HP	EFSC210-20232	ENRC-32202	UGR12-20232	ENRC-32202	2	1	2








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Class I, Div. 1 and 2
Groups B, C, D
Class II, Div. 1 and 2
Groups F*, G
Class III
NEMA 3, 3R, 7BCD, 9F*G

20 Amp U-Line® Factory Sealed Aluminum† Receptacles: Explosionproof, Dust-Ignitionproof

Dead-Front Safety Construction—Grounding thru Extra Pole and Shell.
Choice of Aluminum or Thermoplastic Polyester Plug.

U.S. Patent No. 3,346,709
Patented Canada 1968
U.S. Patent No. 4,391,480
Patented Canada 1985

			Catalog Number		
Type	Wire/ Pole	Hub Size, Inches	125V	250V	
Aluminum Receptacle and Malleable Iron Mounting Box—Model B					
125VAC, 20A, 1 HP; 250VAC, 20A, 2 HP					
Single Gang—Factory Sealed					
Class I, Groups C & D			125V	250V	
Class II, Groups F*, G, Class III					
Suitable for Group B when used with external seals. ‡					
Class I, Div. 2 Groups B, C, D seals not required.					
 Dead-End	2W,3P	1/2	EFS150-2023	EFS150-20232	
		3/4	EFS175-2023	EFS175-20232	
		1	EFS110-2023	EFS110-20232	
 Feed-Thru	2W,3P	1/2	EFSC150-2023	EFSC150-20232	
		3/4	EFSC175-2023	EFSC175-20232	
		1	EFSC110-2023	EFSC110-20232	
Two Gang—Factory Sealed					
Class I, Groups C & D, Class II, Groups F*, G, Class III					
 Dead-End	2W,3P	1/2	EFS250-2023	EFS250-20232	
		3/4	EFS275-2023	EFS275-20232	
		1	EFS210-2023	EFS210-20232	
 Feed-Thru	2W,3P	1/2	EFSC250-2023	EFSC250-20232	
		3/4	EFSC275-2023	EFSC275-20232	
		1	EFSC210-2023	EFSC210-20232	
Factory Sealed Aluminum Replacement Receptacle Only—Model B					
Class I, Groups C and D, Class II, Groups F*, G, Class III.					
			2W,3P	EFSR-2023	EFSR-20232
			Receptacle for use on Killark SWB Boxes.	EFSR-2023K	EFSR-20232K
			Screw Cover Kit •	ULINEREC4XKIT	
			Spring Door Replacement Assembly (aluminum)	ULSCA	

Plugs for above Receptacles

Class I, Groups B, C and D, Class II, Groups F*, G, Class III

These watertight plugs also fit NEMA 5-15R, 5-20R or 6-20R receptacles in nonclassified areas.

U-Line® Interchanger™ ECP PLUG (Aluminum) Standard plug suitable for use in such areas as refineries, petrochemical plants, and other areas subject to corrosion by ignitable gases and moisture.




NCP PLUG (30% Glass-Reinforced Thermoplastic Polyester). Ideal where moisture or corrosion is a constant problem, such as production facilities on marine platforms, and pipeline transportation facilities.



ECP Plug



NCP Plug

Amps	Diagram	Wire/ Pole	Cable Dia., Inches	Cat. No. ECP Plug (Model D)		Cat. No. NCP Plug	
				125V	250V	125V	250V
15		2W,3P	.538 to .639	ECP-1523	—	NCP-1523	—
20		2W,3P	.538 to .639	ECP-2023	—	NCP-2023	—
20		2W,3P	.538 to .639	—	ECP-20232	—	NCP-20232

◇ Shaded area indicates items suitable for Class I, Group B in addition to Class I, Groups C and D; Class II, Groups F*, G; and Class III.

† Aluminum receptacle cover and malleable iron EFD box. For aluminum box and receptacle cover, add suffix-A.

‡ Seals (not furnished—see Cat. Sec. I) must be placed within 2 inches from each conduit opening.

* Do not use where electrically conductive dusts are present (most coal dusts are not electrically conductive).

• NEMA Type 3RX when the screw cover is installed and the cover is fully engaged.

**Class I, Div. 1 and 2
Groups B, C, D
Class II, Div. 1 and 2
Groups F*, G
Class III
NEMA 3, 3R, 7BCD, 9F*G**

20 Amp U-Line® Factory Sealed Malleable Iron Receptacles: Explosionproof, Dust-Ignitionproof

Dead-Front Safety Construction—Grounding thru Extra Pole and Shell.

U.S. Patent No. 3,346,709
Other Patents Pending



Dead-End

Feed-Thru



Separate Sealing Chamber
Factory Sealed

Malleable Iron Receptacle and Mounting Box—Model B 125VAC, 20A, 1 HP; 250VAC, 20A, 2 HP

**CLASS I, GROUP B
Single Gang—Factory Sealed**
Class I, Groups B, C, and D
Class II, Groups F*, G Class III



125V



250V

Type	Wire/Pole	Hub Size, Inches	125V	250V
Dead-End	2W,3P	1/2	EFSB150-2023M	EFSB150-20232M
		3/4	EFSB175-2023M	EFSB175-20232M
Feed-Thru	2W,3P	1/2	EFSCB150-2023M	EFSCB150-20232M
		3/4	EFSCB175-2023M	EFSCB175-20232M

These models have separate factory sealed chamber— suitable for Class I, Group B as well as Class I, Groups C and D, Class II, Groups F*, G and Class III. No external seals required.



Dead-End

Feed-Thru

Malleable Iron Receptacle and Mounting Box—Model B 125VAC, 20A, 1 HP; 250VAC, 20A, 2 HP

Single Gang—Factory Sealed
Class I, Groups C and D, Class II, Groups F*, G, Class III
Suitable for Group B when used with external seals. ‡
Class I, Div. 2 Groups B, C, D seals not required.

Dead-End	2W,3P	1/2	EFS150-2023M	EFS150-20232M
		3/4	EFS175-2023M	EFS175-20232M
		1	EFS110-2023M	EFS110-20232M
Feed-Thru	2W,3P	1/2	EFSC150-2023M	EFSC150-20232M
		3/4	EFSC175-2023M	EFSC175-20232M
		1	EFSC110-2023M	EFSC110-20232M



Dead-End

Feed-Thru

Two Gang—Factory Sealed

Class I, Groups C and D, Class II, Groups F*, G, Class III

Dead-End	2W,3P	1/2	EFS250-2023M	EFS250-20232M
		3/4	EFS275-2023M	EFS275-20232M
		1	EFS210-2023M	EFS210-20232M
Feed-Thru	2W,3P	1/2	EFSC250-2023M	EFSC250-20232M
		3/4	EFSC275-2023M	EFSC275-20232M
		1	EFSC210-2023M	EFSC210-20232M



Factory Sealed Malleable Iron Replacement Receptacle Only—Model B

Class I, Groups C and D, Class II, Groups F*, G, Class III

2W,3P	EFSR-2023M	EFSR-20232M
Spring door replacement assembly (Iron)	ULSCM	

◊ Shaded area indicates items suitable for Class I, Group B in addition to Class I, Groups C and D; Class II, Groups F*, G; and Class III.

‡ Seals (not furnished—see Cat. Sec. I) must be placed within 2 inches from each conduit opening.

* To reduce the risk of ignition of hazardous atmospheres, do not use where electrically conductive dusts are present (most coal dusts are not electrically conductive).

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**Class I, Div. 1 and 2
Groups B, C, D
Class II, Div. 1 and 2
Groups E, F, G
Class III
NEMA 3, 3R, 7BCD, 9EFG**

Applications

- Provides required ground fault protection for portable electrically-operated devices. Meets all UL and CSA requirements for ground fault protection in hazardous locations.
- Well suited for use in highly corrosive atmospheres and wet locations.
- Can be used in conjunction with U-Line factory-sealed Model B receptacle on 20A, 125VAC branch circuits.

Features

- Factory sealed construction; no external seals are required. Arcing, if any, is confined within the device's interior sealed chamber.
- Rated 20A, 125VAC, 5 MA trip setting.
- Smooth-operating test and reset buttons.
- Can be installed in standard EFD Series mounting boxes shown on L-10. Choice of malleable iron or aluminum, dead-end or feed-thru styles, with 1/2", 3/4" or 1" hubs.

Standard Materials

- *Cover and sealing chamber:* cast copper-free aluminum (less than 4/10ths of 1%).
- *Cover bolts, test and reset buttons and shafts:* stainless steel.

Standard Finish

- *Cover and sealing chamber:* baked grey epoxy clad finish.

Compliances

- UL Standard 943 and 1203
- NEMA 3, 3R, 7BCD, and 9EFG
- CSA Standard C22.2

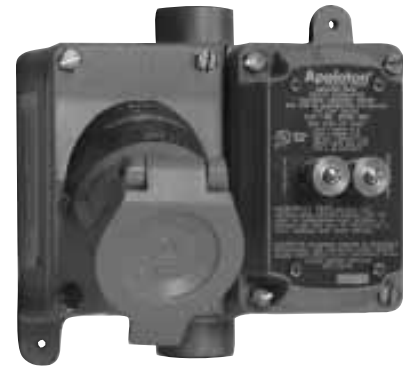
◊ Shaded area indicated items suitable for Class I, Group B and Class II, Group E in addition to Class I, Groups C and D and Class II, Groups F, G.

EFSR-GFI Factory Sealed Explosionproof, Dust-Ignitionproof Ground Fault Circuit Interrupter

For use with U-Line Receptacles on 20A, 125VAC branch circuits. Installs in standard EFD Mounting Box.



EFSR-GFI cover mounted on single-gang box. The GFI cover has separate factory-sealed sealing chamber and is suitable for Class I, Group B as well as Class I, Groups C and D; Class II, Groups E, F, G and Class III.



EFSR-GFI cover installed on two-gang EFD box together with U-Line 20A, 125VAC factory-sealed receptacle. Receptacle listed for Class I, Groups C and D, Class II, Groups F and G, and Class III.

Description	Hub	Catalog Number	
		Malleable Iron	Aluminum
GFI Cover and Box-Single Gang-Factory Sealed			
Dead-End	1/2"	EFS150-GFI	EFS150A-GFI
	3/4"	EFS175-GFI	EFS175A-GFI
	1"	EFS110-GFI	EFS110A-GFI
Feed-Thru	1/2"	EFSC150-GFI	EFSC150A-GFI
	3/4"	EFSC175-GFI	EFSC175A-GFI
	1"	EFSC110-GFI	EFSC110A-GFI
GFI Cover, U-Line Receptacle and Box-Two Gang-Factory Sealed			
Dead-End	1/2"	EFS250-2023GFI	EFS250A-2023GFI
	3/4"	EFS275-2023GFI	EFS275A-2023GFI
	1"	EFS210-2023GFI	EFS210A-2023GFI
Feed-Thru	1/2"	EFSC250-2023GFI	EFSC250A-2023GFI
	3/4"	EFSC275-2023GFI	EFSC275A-2023GFI
	1"	EFSC210-2023GFI	EFSC210A-2023GFI

Aluminum Ground Fault Interrupter Cover/Device

Cover may be used with other boxes and U-Line® receptacles in this section.

EFSR-GFI

**Class I, Div. 1 and 2
Groups C,D
Class II, Div. 1 and 2
Groups F,G
Class III
NEMA 3,3R,7CD,9FG**

U-Line® Portable Receptacle with GFCI Explosionproof, Dust-Ignitionproof

For use on Hazardous or Non-Hazardous Receptacles Rated 20A, 125VAC.

Applications

- Provides required portable ground fault protection for electrically-operated devices. Meets all UL and CSA requirements for ground fault protection in hazardous locations.
- Well suited for use in highly corrosive atmospheres and wet locations.

Features

- Arcing, if any, is confined within the devices interior.
- Rated 20A, 125VAC, 5 MA trip setting.
- Provides open neutral protection to maximize safety for plant personnel.
- High intensity LED pilot light rated at 100,000 hours. Incandescent optional, consult factory.
- Smooth-operating test and reset buttons.
- Heavy duty 3' SO power cord with U-Line 20A NEMA 5-20P plug.
- Lightweight (7-1/2 lbs.) design.
- Convenient carry/hanging handle.
- Plug mates with competitors comparable receptacles. The receptacle also accepts their respective plugs.

Standard Materials

- *Covers and backbox:* cast copper-free aluminum (less than 4/10ths of 1%).
- *Cover bolts, test and reset buttons and shafts:* stainless steel.
- *Hanging cable:* nylon covered galvanized steel.

Standard Finish

- Baked grey epoxy clad finish.

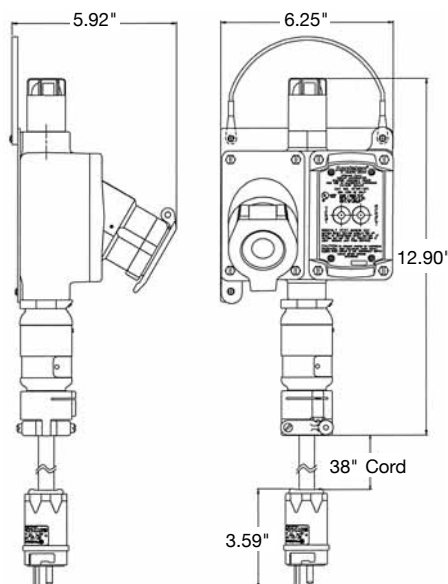
Compliances

- UL Standard 943 and 1203
- NEMA 3, 3R, 7CD, and 9FG
- CSA Standard C22.2



Amperage	Pilot Light	Class I, Division 1 and 2
20	Green LED	U2023PGFID1G3
	Red LED	U2023PGFID1R3





Dimensions



L-10

Class I, Div. 1 and 2
Groups B, C, D
Class II, Div. 1 and 2
Groups E, F, G
Class III
NEMA 7CD, 9EFG

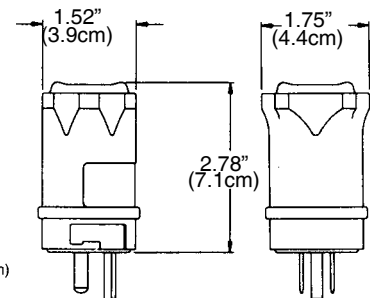
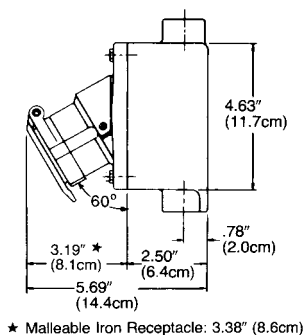
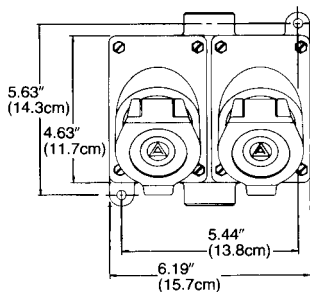
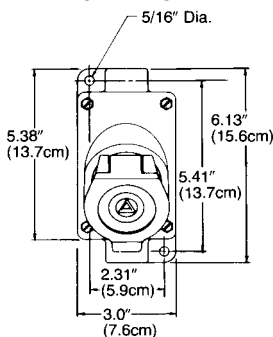
U-Line® Mounting Boxes and Dimensions

		Type	Hub Size, Inches	Catalog Number	
				Malleable Iron	Aluminum
Single Gang					
 Dead-End	 Feed-Thru	Dead-End	1/2 3/4 1	EFD150-NL-Q EFD175-NL-Q EFD110-NL-Q	EFD150A-NL-Q EFD175A-NL-Q EFD110A-NL-Q
		Feed-Thru	1/2 3/4 1	EFDC150-NL-Q EFDC175-NL-Q EFDC110-NL-Q	EFDC150A-NL-Q EFDC175A-NL-Q EFDC110A-NL-Q
Two Gang					
 Dead-End	 Feed-Thru	Dead-End	1/2 3/4 1	EFD250-NL-Q EFD275-NL-Q EFD210-NL-Q	EFD250A-NL-Q EFD275A-NL-Q EFD210A-NL-Q
		Feed-Thru	1/2 3/4 1	EFDC250-NL-Q EFDC275-NL-Q EFDC210-NL-Q	EFDC250A-NL-Q EFDC275A-NL-Q EFDC210A-NL-Q

Single Gang Box

Two Gang Box

ECP/NCP Plugs



◊ Shaded area indicates items suitable for Class I, Group B in addition to Class I, Groups C and D when installed with suitable cover.

Contender® U-Line® Factory Sealed Receptacles

20 Amp, Explosionproof, Dust-Ignitionproof

Applications

- Locations where receptacles are used with stationary or portable electrically operated devices such as lighting systems, conveyors, heaters, motor generator sets, air conditioners, compressors, and pumps.
- Locations where damp or corrosive conditions are encountered.

Features

- Covers are UL listed when used with Contender® series backboxes.
- Covers are UL Classified to mount on Crouse-Hinds® EDS backboxes.
- Appleton “ENR” Series receptacles are UL Classified for use with Crouse-Hinds® ENP Series plugs.
- Appleton’s Interchanger™ plug mates with Killark® “UGR” Series and Crouse-Hinds “ENR” Series receptacles.
- ECP plug fits any standard U-Ground non-explosionproof receptacle (NEMA 5-15R, 5-20R, or 6-20R) as well as U-Line explosionproof receptacles.
- Positive mechanical cable clamps prevent strain on cables— they meet or exceed UL strain relief pull-out requirements.
- Insulators provide greatest dielectric and mechanical strength, lowest moisture absorption, and lowest “arc tracking.”
- U-Line receptacle: “Dead-Front” construction. To operate, insert plug and rotate. Rotation of plug activates switch to ON position during plug insertion and to OFF position during plug withdrawal.

Standard Materials

- *Cover*: copper-free aluminum.
- *Backbox*: malleable iron (optional copper-free aluminum backbox available).
- *Insulating Blocks*: fiberglass reinforced thermoset polyester.

Standard Finishes

- *Malleable iron mounting boxes*: triple-coat— (1) zinc electroplate, (2) dichromate and (3) epoxy powder coat.
- *Covers and aluminum backboxes*: epoxy powder coat.



Options

- U-Line all -aluminum receptacle cover and box. Suffix **-SA**.
- U-Line corrosion resistance kit. Order **ULINE3RXXIT**.

Compliances

- UL Standard 1010 and 894






- Appleton malleable iron products conform to ASTM A47-77, Grade 32510, which has the following properties: tensile strength, 50,000 psi; yield, 32,000 psi; and elongation, 10%.
- Appleton aluminum products are produced from a high strength copper-free (4/10 of 1% max.) alloy.

L-12

Class I, Groups C,D
 Class I, Div. 2, Groups B
 Class I, Zone 1, Group IIB
 Class I, Zone 2, Group IIB + H₂
 Class II, Groups F*,G
 Class III
 NEMA 3RX•

Contender® U-Line® Factory Sealed Receptacles†

20 Amp, Explosionproof, Dust-Ignitionproof

		Type	Hub Size	Catalog Numbers	
				125V	250V
Single Gang- Factory Sealed					
	Dead-End		1/2	ENR11201	ENR11202
			3/4	ENR21201	ENR21202
			1	ENR31201	ENR31202
	Feed-Thru		1/2	ENRC11201	ENRC11202
			3/4	ENRC21201	ENRC21202
			1	ENRC31201	ENRC31202
Two Gang- Factory Sealed					
	Dead-End		1/2	ENR12201	ENR12202
			3/4	ENR22201	ENR22202
			1	ENR32201	ENR32202
	Feed-Thru		1/2	ENRC12201	ENRC12202
			3/4	ENRC22201	ENRC22202
			1	ENRC32201	ENRC32202
Factory Sealed Receptacle Cover Assembly Only					
				ENR5201	ENR6202
	Screw Cover Kit•			ULINEREC4XKIT	
	Spring Cover Replacement Kit (Aluminum)			ULSCA	



Interchanger™
ECP Plug
(aluminum)

Plugs for above Receptacles

Class I, Groups B,C and D, Class II, Groups F*,G, Class III




These watertight plugs also fit NEMA 5-15R, 5-20R or 6-20R receptacles in non-classified areas.

U-Line® Interchanger™ ECP PLUG (Aluminum) Standard plug suitable for use in such areas as refineries, petrochemical plants, and other areas subject to corrosion.



NCP Plug
(Thermoplastic Polyester)

NCP PLUG (Filled Polyester) Ideal where moisture or corrosion is a constant problem, such as production facilities on marine platforms, and pipeline transportation facilities.

Amps	Diagram	Wire/ Pole	Cable Dia., Inches	Cat. No. ECP Plug (Model D)		Cat. No. NCP Plug	
				125V	250V	125V	250V
15		2W,3P	.538 to .639	ECP-1523	—	NCP-1523	—
20		2W,3P	.538 to .639	ECP-2023	—	NCP-2023	—
20		2W,3P	.538 to .639	—	ECP-20232	—	NCP-20232

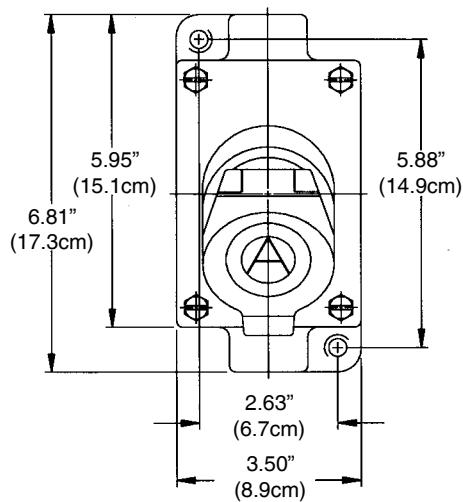
† Aluminum receptacle cover and malleable iron Contender Series box. For aluminum box and receptacle cover, add suffix -SA.

* Do not use where electrically conductive dusts are present (most coal dusts are *not* electrically conductive).

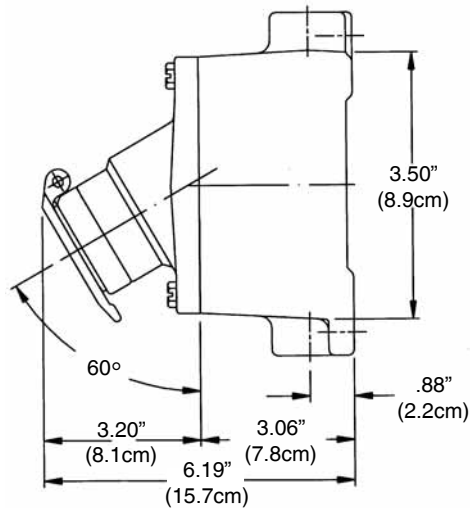
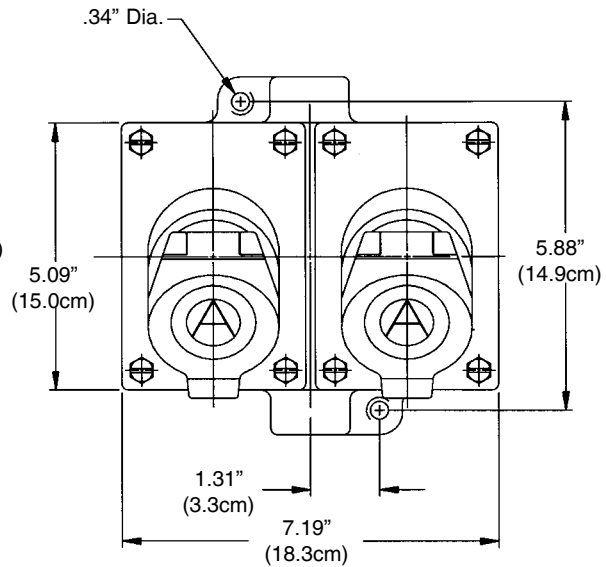
• NEMA Type 3RX when the screw cover kit is installed and the cover is fully engaged.

Dimensions: Contender® U-Line® Factory Sealed Receptacles and Plugs

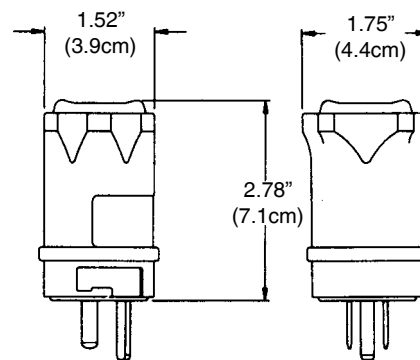
Single Gang Box



Two Gang Box



ECP/NCP



L-14

**Class I, Div. 1 and 2
Groups C,D
Class II, Div. 1 and 2
Groups E,F,G
Class III
NEMA 3,3R,7CD,EFG**

Applications

- Provides required ground fault protection for portable electrically-operated devices. Meets all UL and CSA requirements for ground fault protection in hazardous locations.
- Well suited for use in highly corrosive atmospheres and wet locations.
- Can be used in conjunction with U-Line factory-sealed Contender receptacle on 20A, 125VAC branch circuits.

Features

- Covers are UL listed when used with Contender® series backboxes.
- Covers are UL Classified to mount on Crouse-Hinds EDS backboxes.
- Factory sealed construction; no external seals are required. Arcing, if any, is confined within the device's interior sealed chamber.
- Rated 20A, 125VAC, 5 MA trip setting.
- Large, smooth-operating test and reset buttons.
- Can be installed in standard Contender® Series mounting boxes shown in Section M. Choice of malleable iron or aluminum, dead-end or feed-thru styles, with 1/2", 3/4" or 1" hubs.

Standard Materials

- Cover and sealing chamber cast copper-free aluminum (less than 4/10 of 1%).
- Cover bolts, test and reset buttons and shafts: stainless steel.

Compliances

- UL Standard 943 and 1203
- NEMA 3, 3R, 7CD, and 9EFG.

GFS-1 Factory Sealed Explosionproof, Dust-Ignitionproof Ground Fault Circuit Interrupter

For use with Contender® U-Line® Receptacles on 20A, 125VAC Branch Circuits. Installs in Standard Contender Series Mounting Box.



Description

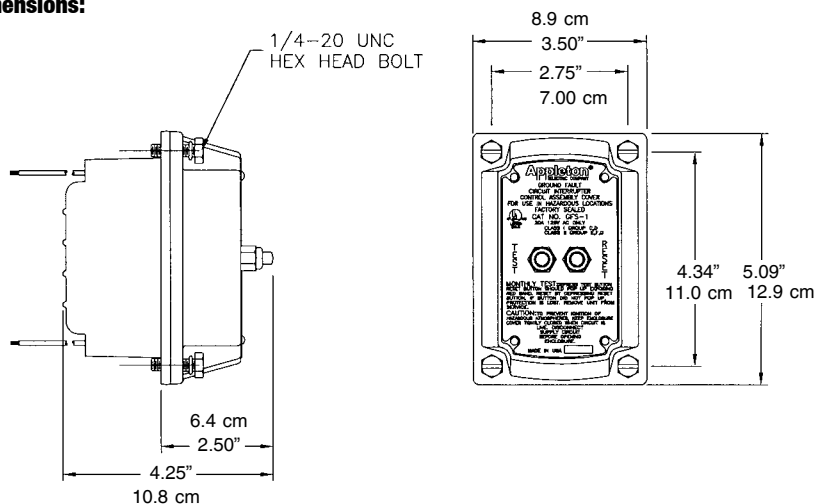
Catalog No.

Aluminum Ground Fault Interrupter Cover/Device

Cover may be used with Contender® series boxes and Contender® series U-Line® receptacles in this section.

GFS-1

Dimensions:





Intraground® N1 and N2 Series 20 Amp U-Line® Receptacles with Non-Metallic Mounting Box

Dead-Front Safety Construction—Grounding thru Extra Pole and Shell. N1 Series—Neutral Color; N2 Series—Blue Color.

Applications

N1 Series (Non-Factory Sealed)*

● Listed for use in Class I, Group C and D, Division 1 and 2 atmospheres such as diethyl ether, methyl ethyl ketone, acetone, toluene, No. 3 fuel oil, ammonium hydroxide (20%), benzene, regular unleaded gas, ethyl acetate, hexane and methanol. *Not suitable for ethylene dichloride and partially halogenated hydrocarbons. Sealing fittings must be field installed adjacent to enclosure on a conduit runs.†*

● Explosionproof. With sealing fittings installed at each conduit entrance, the N1 Series enclosures withstood a hydrostatic test of four times the maximum internal explosion pressure that could be developed from a gas explosion.

N2 Series (Factory Sealed)

● Listed for use in Class I, Group C and D, Division 2 atmospheres such as diethyl ether, methyl ethyl ketone, acetone, toluene, No. 3 fuel oil, ammonium hydroxide (20%), benzene, regular unleaded gas, ethyl acetate, hexane and methanol. *Factory sealed — no external seals required.*

● Dust-tight. After 32-hour UL test, no magnesium dust entered the enclosure.

Features—N1 and N2 Series

- Non-metallic construction with metal imbedded grounding grid. No need to install special wires and parts for grounding. Feed-thru or dead end grounded 1/2" or 3/4" conduit openings for threaded conduit.
- Special grounding wire finished with each box provides safe grounding when cover is removed.
- Excellent resistance to ultraviolet light and water.
- Excellent conduit connection strength. UL pull-out and bending resistance tests resulted in no effect on connections.
- Superior flammability resistance. After five UL gas burner tests, where flame was applied directly to the box, enclosure retained its integrity.



Features—N1 Series

- First UL listed non-metallic control stations available for Class I, Div. 1.
- Unique labyrinth-path construction assures flame-tight joint between body and cover.
- Silicone gasket, specially designed for the labyrinth-path joint, prevents entrance of moisture without interfering with the venting of cooled hazardous gases and vapors.
- High strength thermoplastic polyetherimide, together with thick wall (5/16") and sound structural design (rounded corners) provides superior resistance to impact and crushing.
- Typical mechanical properties of 24,500 psi tensile strengths, 3% elongation at break, 33,000 psi flexural strength, and 1,200,000 psi flexural modulus.
- Electrical properties: dielectric strength (in air) of 769 V/mil at 1/16".
- Excellent resistance to fungi, mold.
- Excellent Heat Deflection Temperature. At 264 psi, in accordance with ASTM D648 testing procedure, sample specimens rated at 410°F the temperature required to deflect material .01".
- UL Temperature Index (continuous use): 338°F electrical properties, 338°F mechanical properties with impact.

Features—N2 Series

- Molded of high-tensile 30% glass-reinforced thermoplastic polyester. Enclosure walls are 5/16" thick.
- Silicone gasket, specially designed for the labyrinth-path point between cover and body, prevents entrance of moisture and dust.
- Typical mechanical properties of 17,000 psi tensile strength, 3% elongation at break, 27,000 psi flexural strength, and 1,100,000 psi flexural modulus (UL tests: 18,918 psi tensile strength and 30,675 psi flexural strength).
- Electrical properties of sample specimens: dielectric strength of 490 at 1/8" and a comparative track index of 185V/.058".

† Sealing fittings not furnished. Order from Cat. Sec.I.

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N1 Series (Non-Factory Sealed)†
 Class I, Div. 1 and 2
 Groups C,D
 NEMA 3,3R,4X,7CD,12

N2 Series (Factory Sealed)
 Class I, Div. 2
 Groups B,C,D
 Class II, Div. 1 and 2
 Groups F*,G
 Class III
 NEMA 3,3RX,4X*, 9F*,G,12

Intraground® N1 and N2 Series 20 Amp U-Line® Receptacles with Nonmetallic Mounting Box

Dead-Front Safety Construction—Grounding thru Extra Pole and Shell. N1 Series—Neutral Color; N2 Series—Blue Color. Choice of Aluminum or Thermoplastic Polyester Plug.

U.S. Pat. 4,260,863
 Patented Canada 1980

U.S. Pat. 3,346,709
 Patented Canada 1968

U.S. Pat. 4,391,480
 Patented Canada 1980

Hub Size, Inches**	Wire/Pole	Volts	Catalog Number	
			(Non-Factory Sealed) N1 Series†	(Factory Sealed) N2 Series

20 Amp Aluminum Epoxy Coated Receptacles with Nonmetallic Mounting Box

125VAC, 20A, 1HP; 250VAC, 20A, 2HP.



Dead-End

1/2 or 3/4	2W,3P	125		N1D75-2023	N2D75-2023
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1/2 or 3/4	2W,3P	250		N1D75-20232	N2D75-20232
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Feed-Thru

1/2 or 3/4	2W,3P	125		N1DC75-2023	N2DC75-2023
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1/2 or 3/4	2W,3P	250		N1DC75-20232	N2DC75-20232
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Plugs for above Receptacles

These watertight plugs also fit NEMA 5-15R, 5-20R or 6-20R receptacles in nonclassified areas.



ECP Plug

Interchanger™ ECP PLUG (Aluminum). Standard plug suitable for use in such areas as refineries, petrochemical plants, and other areas subject to corrosion by ignitable gases and moisture.



NCP Plug

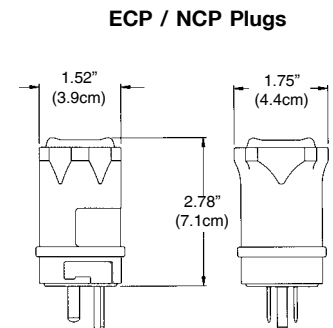
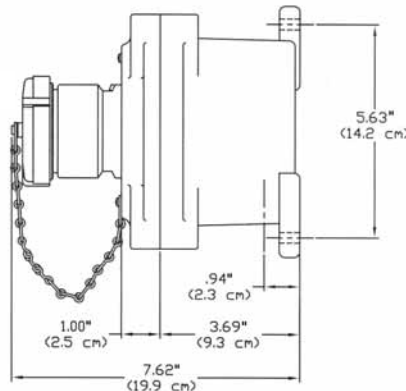
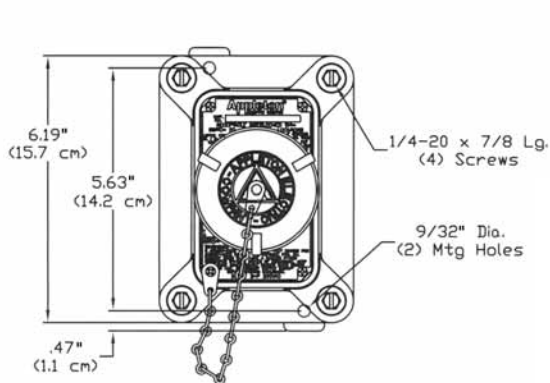
NCP PLUG (Filled Polyester). Ideal where moisture or corrosion is a constant problem, such as production facilities on marine platforms, and pipeline transportation facilities.

Amps	Diagram	Wire/Pole	Cable Dia., Inches	Cat. No. ECP Plug (Model D)		Cat. No. NCP Plug	
				125V	250V	125V	250V
15		2W,3P	.538 to .639	ECP-1523	—	NCP-1523	—
20		2W,3P	.538 to .639	ECP-2023	—	NCP-2023	—
20		2W,3P	.538 to .639	—	ECP-20232	—	NCP-20232

†Sealing fittings must be field installed adjacent to enclosure on all conduit runs. *Do not use in atmospheres containing electrically conductive dusts (most coal dusts are *not* electrically conductive).

**Furnished with a 3/4" to 1/2" reducer.

- NEMA Type 4X rated when screw cover fully engaged or when plug is inserted.



**Class I, Div. 1 and 2
Groups B,C,D
Class II, Div. 1 and 2
Groups F*,G
Class III
‡NEMA 3,3R,3RX*,4X*,7BCD,9F*G,12**

20 Amp U-Line® ECH/ECHT Factory Sealed Receptacles for Panel Mounting: Watertight; Explosionproof, Dust-Ignitionproof

Dead-Front Safety Construction—Grounding thru Extra Pole and Shell. Choice of Aluminum or Thermoplastic Polyester Plug.

U.S. Pat. 4,391,480
Patented Canada 1985

U.S. Pat. 3,346,709
Patented Canada 1968

**Thread Size
and Type**

Wire/Pole

Catalog Number
125V 250V



20 Amp Aluminum Receptacle

125VAC, 20A, 1 HP; 250VAC, 20A, 2HP

1-1/2" (1-1/2—11-1/2 NPT†) 2W,3P
2" (2—11-1/2 NPSM†) 2W,3P



**ECHT2023
ECH2023**

**ECHT20232
ECH20232**

(Spring Cover Included with Assembly)



**Interchanger™
ECP Plug**



**NCP Plug
(Thermoplastic Polyester)**

Plugs for above Receptacles

These watertight plugs also fit NEMA 5-15R, 5-20R or 6-20R receptacles in nonclassified areas.

Amps	Diagram	Wire/ Pole	Cable Dia., Inches	Cat. No. ECP Plug (Model D)		Cat. No. NCP Plug	
				125V	250V	125V	250V
15		2W,3P	.538 to .639	ECP-1523	—	NCP-1523	—
20		2W,3P	.538 to .639	ECP-2023	—	NCP-2023	—
20		2W,3P	.538 to .639	—	ECP-20232	—	NCP-20232

Recommended Enclosure Types for use with ECH/ECHT Receptacle

Hazardous
(Classified)
Location

Suitable
Enclosure Type

Class I, Div. 1 NEMA 7BCD with 1-1/2" (1-1/2—11-1/2 NPT) or 2" (2—11 1/2 NPSM) thread opening. Minimum 7 full threads of engagement required for Group B; minimum 5 threads for Groups C and D.

Class I, Div. 2 NEMA 3,3R,3S,12 or any suitable enclosed and gasketed enclosure that prevents the escape of sparks or burning materials.

Class II, Div. 1 NEMA 9F*G with 1-1/2" (1-1/2—11-1/2 NPT) or 2" (2—11-1/2 NPSM) thread opening. Minimum 3 full threads of engagement required.

Class II, Div. 2 NEMA 3, 3S,12 or any suitable enclosed and gasketed enclosure that minimizes entrance of dust and prevents escape of sparks or burning materials.



Typical Class I, Div. 1 application



Typical Class I, Div. 2 application

- For Class I, Div. 1 applications, the ECHT is ideal where unit is threaded into 1-1/2" NPT (tapered) threads, such as in panelboards. The ECH is ideal for Class I, Div. 1 applications in NPSM (straight) thread 2" openings. Class I, Div. 1 applications require a minimum of five full threads of engagement (seven for Group B).

- For Class I, Div. 2 applications, the ECHT and ECH are suitable for use with approved enclosures having threaded or non-threaded openings for these receptacles. Where threaded enclosures are used, they must have 1-1/2" NPT or NPSM threads to fit the ECHT and 2" NPSM (straight) threads to fit the ECH. No thread engagement is required unless non-factory sealed devices are also installed in the enclosure.

- Furnished with steel locknut and neoprene sealing gasket assembly.
- Gasketed construction protects receptacle against moisture and dirt with plug in or out.
- Interior switch cylinder has neoprene O-ring at each end to seal out dust and moisture.
- Copper-free aluminum housing (4/10 of 1% max.). Epoxy clad-two-coat baked finish.

* Do not use where electrically conductive dusts are present (most coal dusts are *not* electrically conductive). ECHT has 1-1/2" tapered threads (1-1/2-11-1/2 NPT); ECH has 2" straight threads (2—11-1/2 NPSM). ‡Suitable for these types with a suitable NEMA enclosure.
• Meets NEMA 4X when plug is installed or screw cover is fully engaged and mounted in a suitable enclosure. NEMA 3X when spring cover is used and mounted in a suitable enclosure.

Effective September, 2005
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Appleton®

800-621-1506
www.appletonelec.com

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Class I, Div. 1 and 2, Groups B,C,D
 Class II, Div. 1 and 2, Groups F*,G
 Class III
 NEMA 3,3R,7BCD,9F*G
 CSA Certified

20 Amp U-Line® ECCL Factory Sealed Cable Connectors

Dead-Front Safety Construction—Grounding thru Extra Pole and Shell.
 Choice of Aluminum or Thermoplastic Polyester Plug.

U.S. Pat. 4,391,480
 Patented Canada 1985

U.S. Pat. 3,346,709
 Patented Canada 1968

Wire/
 Pole

Cable Dia.
 Inches

Catalog Number
 125V 250V



20 Amp Cable Connectors

125VAC, 20A, 1 HP; 250VAC, 20A, 2HP



With Spring Cover 2W,3P .538 to .639
 Without Spring Cover 2W,3P .538 to .639
 Screw Cover Kit*

ECCL2023 ECCL20232
 ECC2023 ECC20232
 ULINEREC4XKIT

Plugs for use with above Cable Connectors

These watertight plugs also fit NEMA 5-15R, 5-20R or 6-20R receptacles in nonclassified areas.



Interchanger™
 ECP Plug
 (aluminum)



NCP Plug
 (Thermoplastic Polyester)

Amps	Diagram	Wire/ Pole	Cable Dia., Inches	Cat. No. ECP Plug (Model D)		Cat. No. NCP Plug	
				125V	250V	125V	250V
15		2W,3P	.538 to .639	ECP-1523	—	NCP-1523	—
20		2W,3P	.538 to .639	ECP-2023	—	NCP-2023	—
20		2W,3P	.538 to .639	—	ECP-20232	—	NCP-20232

Applications

• For making up adapter sets for connecting portable devices having ECP U-Line Plugs to existing receptacles in non-hazardous areas. Completed adapter set consists of ECCL (or ECC), short flexible cord and plug to fit existing receptacle.

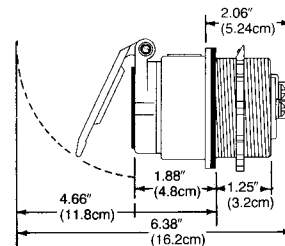
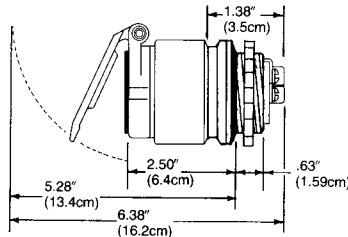
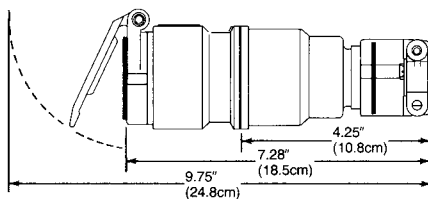
Features

- When plug is withdrawn, ECCL gasketed spring cover snaps shut to protect against moisture and combustible dust. With plug in use, gasket in receptacle throat “seals” around plug for protection against environment.
- Interior switch cylinder has neoprene O-ring at each end to seal out combustible dust and moisture.

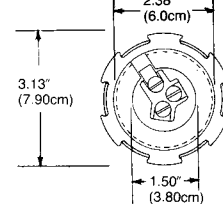
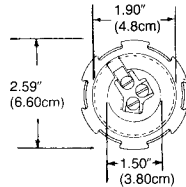
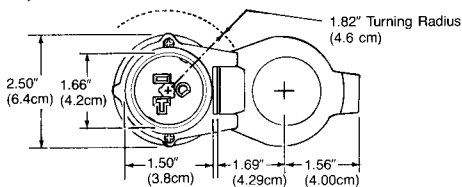
- Cable clamp provides positive grip on cable. Furnished with 2 bushings to accommodate various cable sizes.
- Copper-free aluminum housing (4/10ths of 1% max. copper content).
- Epoxy powder coat.

Dimensions of U-Line Cable Connectors and Panel Mounting Receptacles

ECCL Dimensions



ECCL, ECH and ECHT Dimensions



• NEMA Type 4X when screw cover kit is used and screw cover is fully engaged.

* Do not use where electrically conductive dusts are present (most coal dusts are *not* electrically conductive).

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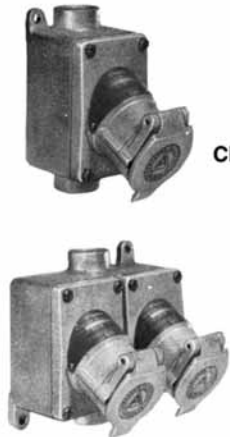




800-621-1506
 www.appletonelec.com

Class I, Div. 1 and 2
Groups B,C,D
NEMA 3RX, 7BCD

20 Amp CPS Factory Sealed Receptacles: Explosionproof

Dead-Front Safety Construction—Grounding thru Extra Pole and Shell.

		Type	Wire/Pole	Hub Size, Inches	Catalog Number
 <p>CPSE CPSC</p>	CPS Receptacles 120-240V A.C., 20A at 1 H.P.; 20A at 24V D.C.				
	Dead-End	2W,3P	1/2 3/4	CPSE-2350 CPSE-2375	
	Feed-Thru	2W,3P	1/2 3/4	CPSC-2350 CPSC-2375	
 <p>CPSA</p>	CPS Receptacle 15° Angle Type 120-240V A.C., 20A at 1 H.P.; 20A at 24V D.C.				
	Dead-End	2W,3P	1/2 3/4	CPSA-2350 CPSA-2375	
 <p>CPSR</p>	CPS Receptacle and Cover Assembly (Replacement)				
	CPSR	2W,3P		CPSR-23	
 <p>CPC1 CPC2</p>	CPS Receptacles with EFD Mounting Boxes 120-240V A.C., 20A at 1 H.P.; 20A at 24V D.C.				
	Single Gang				
	Dead-End	2W,3P	1/2 3/4 1	CPE1-2350 CPE1-2375 CPE1-23100	
	Feed-Thru	2W,3P	1/2 3/4 1	CPC1-2350 CPC1-2375 CPC1-23100	
	Two Gang				
	Dead-End	2W,3P	1/2 3/4 1	CPE2-2350 CPE2-2375 CPE2-23100	
Feed-Thru	2W,3P	1/2 3/4 1	CPC2-2350 CPC2-2375 CPC2-23100		
	CPR Receptacle Cover Assembly Only (Replacement)				
	CPR	2W,3P		CPR-23	
	Screw Cover Kit* Spring Cover Kit			CPS233RXKIT ULSCA	
	CPP Plugs for use with Receptacles Above Pressure Terminals				
	Plug amperes match receptacle ratings	2W,3P	Cable Dia., Inches .536 to .639	CPP-2023	

• NEMA 3X with Screw Cover Kit installed and cover full engaged.

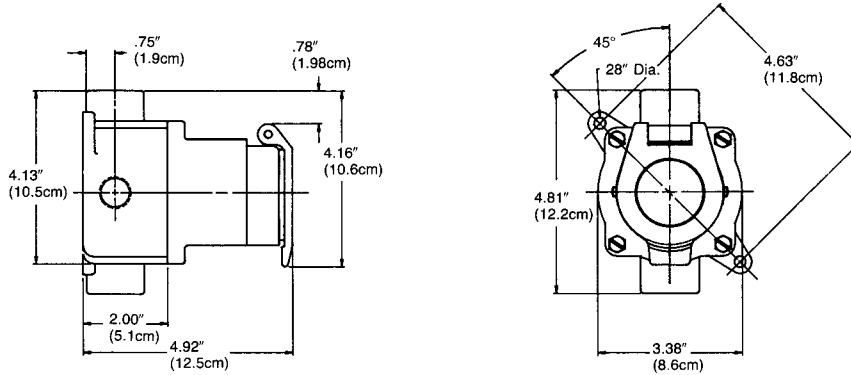
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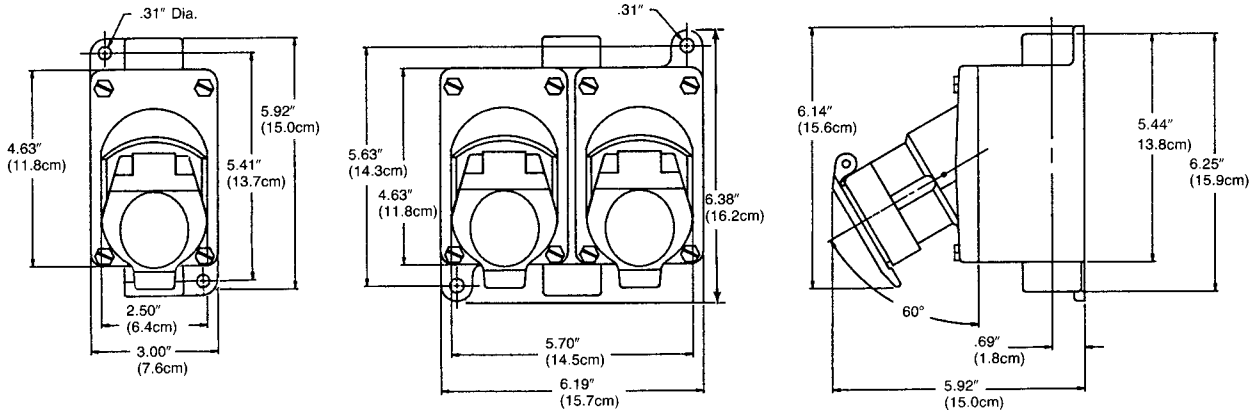
800-621-1506
www.appletonelec.com

Dimensions: CPS Factory Sealed Receptacles and CPP Plugs

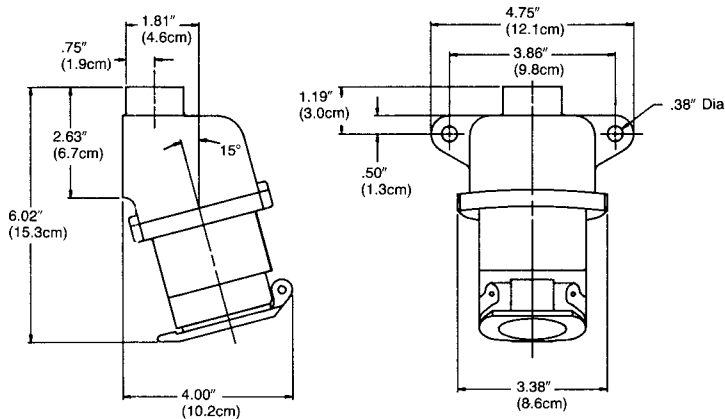
CPS Receptacles—CPSC and CPSE Straight-Out Type



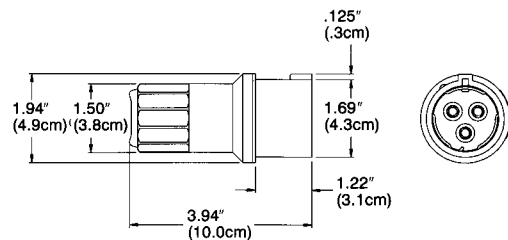
CPS Receptacles—CPSA 45° Angle Type



CPS Receptacles—CPSA 15° Angle Type



CPP 2023 Plug










Class I, Div. 1 and 2
Groups C,D



Contender® CPS Factory Sealed Receptacles† – Pin and Sleeve Type

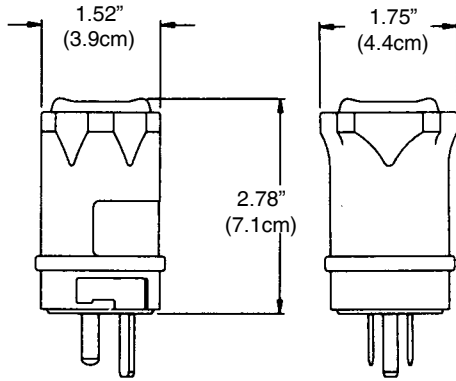
20 Amp, Explosionproof, Delayed Action

		Type	Hub Size	Catalog Numbers 20A 125-250VAC* 1HP, 20A @ 18VDC	
Single Gang– Factory Sealed					
	Dead-End		1/2	CPS152-101 CPS152-201 CPS152-301	
			3/4 1		
	Feed-Thru		1/2	CPS152-111 CPS152-211 CPS152-311	
			3/4 1		
Two Gang– Factory Sealed					
	Dead-End		1/2	CPS152-102 CPS152-202 CPS152-302	
			3/4 1		
			1/2		
3/4 1					
Factory Sealed Receptacle with GFI (125VAC only)					
	Dead-End		1/2	CPS152-102GFI CPS152-202GFI CPS152-302GFI	
			3/4 1		
			1/2		
3/4 1					
Factory Sealed Cover Assemblies					
	Receptacle Only		CPS152R		
	GFCI Cover, 5 MA Trip Setting				GFS1
	Spring Cover Replacement Kit (Aluminum)		CPSCA		
Plug					
		Pressure Terminals		CPP516	

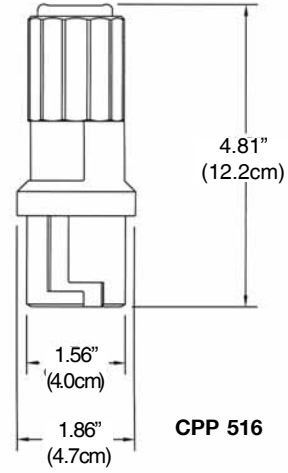
• GFI units rated 20A, 125VAC

†Aluminum receptacle cover and malleable iron EDS box. For aluminum box and receptacle cover, add suffix **-SA**.

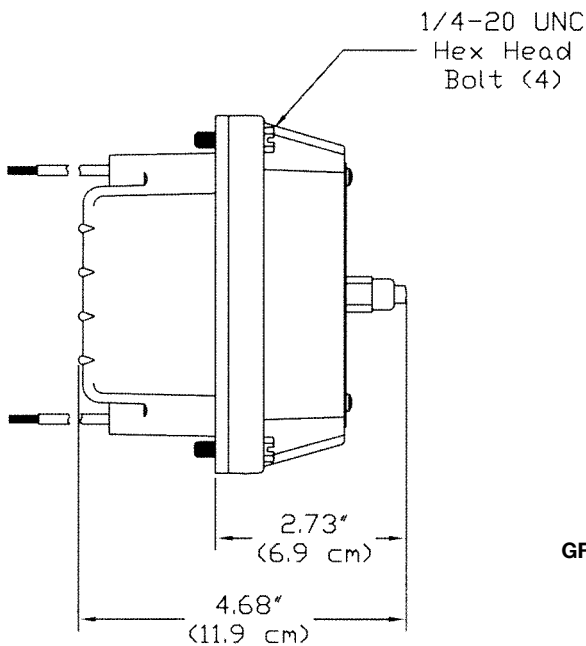
Dimensions: Contender® U-Line® and CPS Factory Sealed Receptacles and Plugs



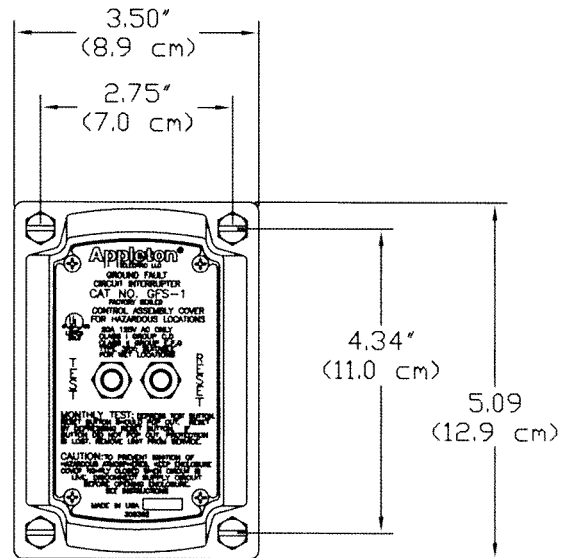
ECP / NCP



CPP 516



GFS-1



**Class I, Div. 1 and 2
Groups B,C,D
Class II, Div. 1 and 2
Groups F,*G
Class III
NEMA 7BCD,9F*G**

30 Amp FSQX Receptacles with Interlocked Switch and Cover: Explosionproof, Dust-Ignitionproof

Raintight Screw Cap Receptacle Cover—Interlocked Switch and Cover Safety Construction—Grounding thru Extra Pole and Shell.



Type	Wire/Pole	Hub Size, Inches	Catalog Number
FSQX Receptacles Furnished with four hubs and three close-up plugs.			
2-Pole Switch rated at 30 Amperes 2 H.P., 120V A.C. 5 H.P., 240V A.C. 10 H.P., 480V A.C. 15 H.P., 600V A.C.	2W,3P	1†	FSQX3023-100
3-Pole Switch rated at 30 Amperes 3 H.P., 120V A.C. 7.5 H.P., 240V A.C. 15 H.P., 480V A.C. 20 H.P., 600V A.C.	3W,4P	1†	FSQX3034-100

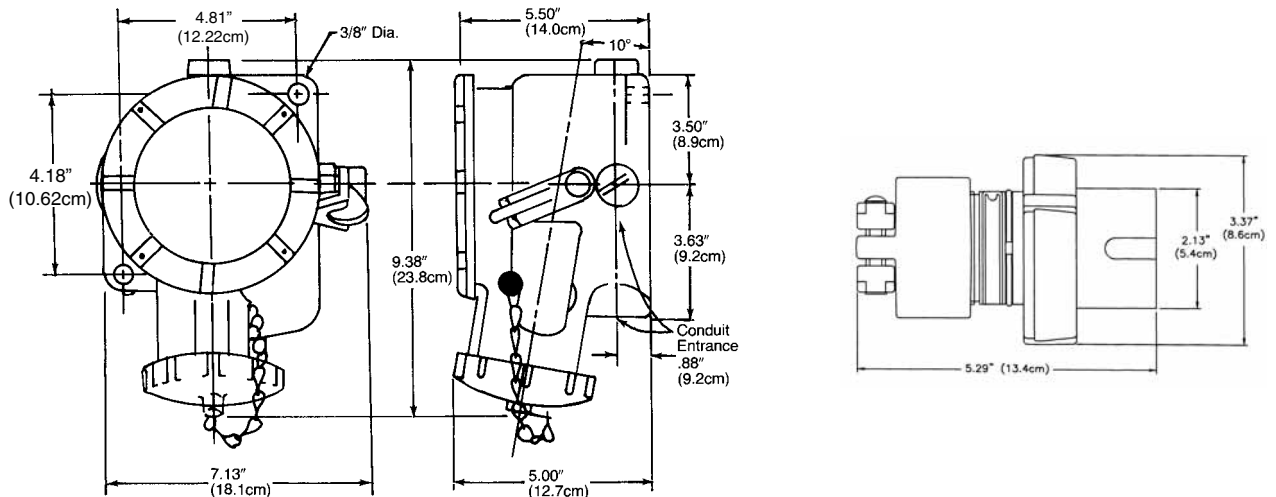


FP Plugs for use with receptacles above
Furnished with cable grip and rubber bushing.
Solder well wire terminals
Pressure terminal for grounding.

	Wire/Pole	Cable Dia., Inches	
		Min.	Max.
Plug amperes match receptacle ratings	2W,3P	.039-1.375	FP-3023
	3W,4P	.039-1.375	FP-3034

*To reduce the risk of ignition of hazardous atmospheres, do not use where electrically conductive dusts are present (most coal dusts are not electrically conductive). † Supplied with 1" to 3/4" reducers.

Dimensions of FSQX Receptacles and FP Plugs



FSQX Receptacle

FP Plug

L-24


Class I, Div. 1 and 2
Groups C,D*

30 and 60 Amp CES and CESD Factory Sealed Receptacles: Explosionproof

Weatherproof Spring Cover—Grounding thru Extra Pole and Shell.
Delayed-Action Safety Construction with Slide-Lok® Design.
Pressure Wire Terminals.

U.S. Patent No. 3,125,394

Catalog Number

Type	Wire/Pole	Hub Size (Inches)	Complete With Box	Back Box Only	Receptacle Only •	Replacement Interior
CES Receptacles—30 Amp and 60 Amp, 125–250VAC (See H.P. ratings below.)						
<i>Furnished with one vertical and two horizontal feed-thru hubs.</i>						
	30 Amps	2W,3P	3/4	CES-3023	CES30B †	CESR-3023 CERI-3023
	30 Amps	3W,4P	3/4	CES-3034	CES30B †	CESR-3034 CERI-3034
	60 Amps	2W,3P	1-1/4	CES-6023	CES60B †	CESR-6023 CERI-6023
	60 Amps	3W,4P	1-1/4	CES-6034	CES60B †	CESR-6034 CERI-6034

CES

CESR

CESD Receptacles—30 Amp and 60 Amp, 125–250VAC


(See H.P. ratings below.)
Furnished with vertical feed-thru hubs.

	30 Amps	2W,3P	3/4	CESD-3023	CESD30B ‡	CESR-3023 CERI-3023
	30 Amps	3W,4P	3/4	CESD-3034	CESD30B ‡	CESR-3034 CERI-3034
	60 Amps	2W,3P	1-1/4	CESD-6023 *	CESD60B ‡	CESR-6023* CERI-6023
	60 Amps	3W,4P	1-1/4	CESD-6034 *	CESD60B ‡	CESR-6034* CERI-6034

CESD

CESR

CPH Plugs and Plug Interiors for use with Receptacles Above

Type	Wire/Pole	Cable Dia. (Inches)	Complete Plug	Replacement Interior
	30 Amps	2W,3P	CPH-3023BC	CEPI-3023B
	30 Amps	3W,4P	CPH-3034BC	CEPI-3034B
	60 Amps	2W,3P	CPH-6023BC	CEPI-6023BC
	60 Amps	3W,4P	CPH-6034BC	CEPI-6034BC

CPH Plug
(30 & 60 Amp)

Interior

• UL Listed with Mounting Box.

† Furnished with one vertical and two horizontal feed-thru hubs.

‡ Furnished with vertical feed-thru hubs.

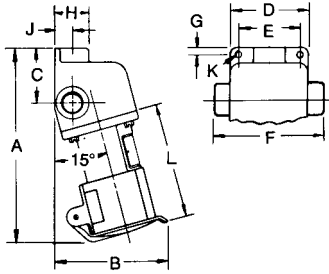
* Class I, Division 1 and 2, Group D only.

CES/CESD Max. H.P. Ratings

125–250V A.C.					480V A.C.				
Wire/Pole	Phase	Max. H.P.	Max. Amps.	Catalog Number	Wire/Pole	Phase	Max. H.P.	Max. Amps.	Catalog Number
2W,3P	1	1-1/2	30	CES/CESD-3023	2W,3P	1	1/2	7	CES/CESD-3023
3W,4P	3	3	30	CES/CESD-3034	3W,4P	3	1	7	CES/CESD-3034
2W,3P	1	1-1/2	60	CES/CESD-6023	2W,3P	1	1-1/2	30	CES/CESD-6023
3W,4P	3	5	60	CES/CESD-6034	3W,4P	3	5	30	CES/CESD-6034

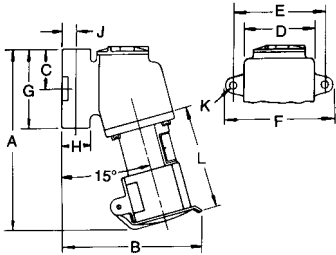


Dimensions: CES/CESD Receptacles and CPH Plugs



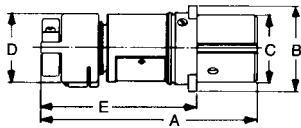
CES Receptacles

Hub Size	Max. Amps.	A	B	C	D	E	F	G	H	J	K	L
Dimensions in Inches												
3/4	30	8.31	4.94	2.38	3.38	2.63	4.69	.31	1.50	.78	1/4D	5.07
1-1/4	60	11.88	6.88	2.88	5.25	4.38	7.31	.44	2.56	1.38	13/32D	7.10
Dimensions in Centimeters												
3/4	30	21.0	12.5	6.0	8.6	6.7	11.9	.8	3.8	2.0	—	12.9
1-1/4	60	30.2	17.5	7.3	13.3	11.1	18.8	1.1	6.5	3.5	—	18.0



CESD Receptacles

Hub Size	Max. Amps.	A	B	C	D	E	F	G	H	J	K	L
Dimensions in Inches												
3/4	30	8.69	6.75	1.88	3.38	4.38	5.13	3.75	1.38	.69	11/32D	5.07
1-1/4	60	12.75	9.31	3.19	5.25	6.25	7.25	6.31	2.56	1.38	13/32D	7.10
Dimensions in Centimeters												
3/4	30	22.1	17.2	4.8	8.6	11.1	13.0	9.5	3.5	1.8	—	12.9
1-1/4	60	32.4	23.7	8.1	13.3	15.9	18.4	16.0	6.5	3.5	—	18.0



CPH Plugs

Max. Amps.	Wire/Pole	A	B	C	D	E
Dimensions in Inches						
30	2W,3P;3W,4P	6.13	2.38	1.86	3.31	4.44
60	2W,3P	8.44	3.06	2.23	3.31	5.69
60	3W,4P	8.44	3.06	2.55	3.31	5.69
Dimensions in Centimeters						
30	2W,3P;3W,4P	15.6	6.0	4.7	8.4	11.3
60	2W,3P	21.4	7.8	5.7	8.4	14.5
60	3W,4P	21.4	7.8	6.5	8.4	14.5

**Class I, Div. 1 and 2
Groups B,C,D
Class II, Div. 1 and 2
Groups F*,G
Class III
NEMA 3,3R,4,4X,7BCD,9FG**

Applications

- Locations where receptacles are used with stationary or portable electrically operated devices such as lighting systems, conveyers, heaters, motor generator sets, air conditioners, compressors and pumps.

Features

- Patented "Sure-Lock" mechanism. Plug must be inserted into receptacle before the switch is in the on position.
- JBR is UL Listed with ACP Power-tite® plugs and CPH plugs.
- Receptacle supplied with flip cover and screw cover.
- Positive polarization; only plugs of the same style, number of poles and amperage rating may be used with these receptacles.
- Cover bolts are stainless steel and captive.
- Terminal block provided in mounting box for ease of wiring. Factory wired between the receptacle and terminal block.
- JBR receptacles are Style 2. Grounding is provided by an extra pole and the shell.
- Receptacles may be locked in the OFF position.
- Mounting box provided 1-1/2" vertical feed-thru conduit openings. Reducer bushings provided for 1-1/4" conduit opening. All conduit openings have NPT threads.
- O-ring gasket provided between the mounting box and receptacle cover.
- Internal switch provides safe and quick disconnect means. No need for separate disconnect switch.
- UL Classified for use in specific combinations with Crouse-Hinds Arktite® Plugs.

Standard Materials

- Receptacle housing and mounting box are copper-free aluminum.
- Cover bolts, mounting feet and hinges are stainless steel.

Standard Finishes

- Receptacle and mounting box are epoxy powder coated grey.

JBR Series Switched Receptacles

Dead Front Interlocked Construction; 30 and 60 Amp, 600 Volts AC, 50-400 Hertz; Pressure Wire Terminals



Options

- For field installed drain and breather set, order one **DRNB4X** drain and one **BRTB4X** breather. Both are NEMA 4X rated for Group B.
- *Special Polarization:* Add suffix—**P4** to catalog number of receptacle or connector. Prevents plug insertion in a receptacle or connector wired for a different voltage.

Suffix—**P4:** Looking at face of receptacle, the receptacle interior or connector

interior is rotated 22-1/2° (relative to the polarization rib) clockwise of standard and plug is polarized to correspond.

Compliances

- UL Standard 1010.
- NEMA Type 3, 3R, 4, 4X, 7BCD, 9FG & 12.

L-28

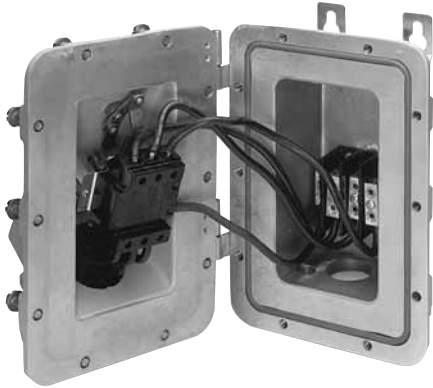
**Class I, Div. 1 and 2
Groups B,C,D
Class II, Div. 1 and 2
Groups F*,G
Class III
NEMA 3,3R,4†,4X†,
7BCD,9FG**

JBR Series Switched Receptacles

Dead Front Interlocked Construction

Electrical Rating

30 and 60 Amp,
600 Volts AC,
50-400 Hertz



Terminal block provided for line connections. Terminal provided for grounding connection. Receptacle is prewired to the terminal block. Disconnect switch mounted on the cover assembly.



Amps	Hub Size*	Wire/ Poles	Terminal Block Wire Range	Receptacle Catalog Number	Mating Plug	
					Powerlite®	CPH
30	1-1/2	2W,3P	2/0 to #14	JBR3023-150 JBR3034-150	ACP3023BC	CPH3023B
	1-1/2	3W,4P	CU-AL		ACP3034BC	CPH3034B
60	1-1/2	2W,3P	2/0 to #14	JBR6023-150 JBR6034-150	ACP6023BC	CPH6023BC
	1-1/2	3W,4P	CU-AL		ACP6034BC	CPH6034BC

Maximum HP Ratings of Switch

Phase Motor	Amps	Motor Horsepower		
		240V	480V	600V
1-Phase 2W,3P	30	7.5	15	20
	60	10	15	20
3-Phase 3W,4P	30	7.5	15	20
	60	10	25	30

Accessories

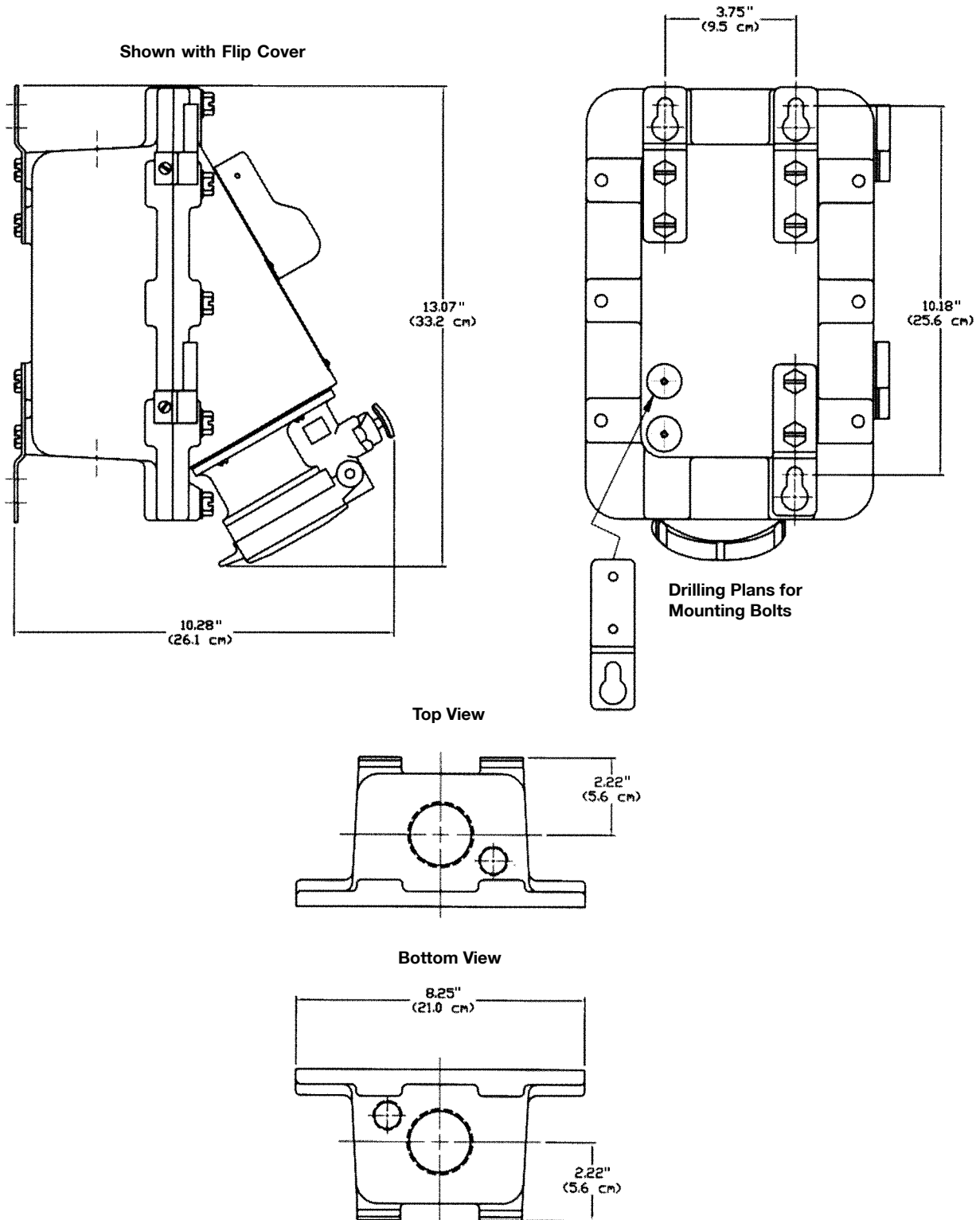
Description	Catalog Number
NEMA 4X Drain	DRNB4X
NEMA 4X Breather	BRTB4X
30 Amp Plug Clamping Ring	30CRING
30 Amp Screw Cover (for receptacle)	30SCAP

* Do not use where electrically conductive dusts are present (most coal dusts are *not* electrically conductive).

† Flip cover suitable for NEMA 3, 3R only. Select screw cover for 4, 4X. Both covers are included with product. NEMA 4 rating maintained with Appleton NEMA 4 plug installed.

• Supplied with (2) 1-1/2" to 1-1/4" reducing bushings.

Dimensions: JBR Series Switched Receptacles




L-30

Class I, Div. 1 and 2
Groups B, C, D
Class II, Div. 1 and 2
Groups F*, G
Class III
NEMA 3, 3R, 4†, 4X†, 7CD, 9F*G

EBR Receptacles with Disconnect Switch or with Circuit Breaker: 30, 60, 100 and 150 Amp; Explosionproof, Dust-Ignitionproof


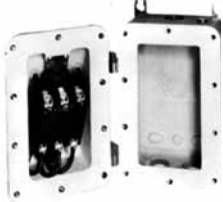
Weatherproof Spring Cover. 600V A.C. Max.
Grounding thru Extra Pole and Shell. Pressure Wire Terminals.

EBRH Receptacles with Disconnect Switch

U.S. Patent No. 3,735,078	Receptacle	Pole	Catalog Number
 <p>EBRH with Switch</p>	30 Amp 2W,3P	2	EBRH3023DS
	30 Amp 3W,4P	3	EBRH3034DS
	60 Amp 2W,3P	2	EBRH6023DS
	60 Amp 3W,4P	3	EBRH6034DS
	100 Amp 2W,3P	2	EBRH1023DS
	100 Amp 3W,4P	3	EBRH1034DS

For Disconnect Switch Horsepower Ratings see page L-31.

EBR Receptacles with Circuit Breaker

U.S. Patent No. 3,735,078	Receptacle	Circuit Breaker Amp	Pole	Cat. No. with 480V A.C. EHD Breaker	Cat. No. with 600V A.C. FDB Breaker	Cat. No. with 600V A.C. FD Breaker
 <p>EBR with Breaker</p> <p>1-1/2" threaded conduit openings— one in top and two in bottom</p>  <p>Circuit Breaker mounted within hinged removable cover (O-ring included for NEMA 4)</p>	30 Amp 2W,3P	20	2	EBR3023EH20	EBR3023FB20	EBR3023HFB20
		30	2	EBR3023EH30	EBR3023FB30	EBR3023HFB30
		40	2	EBR3023EH40	EBR3023FB40	EBR3023HFB40
		50	2	EBR3023EH50	EBR3023FB50	EBR3023HFB50
	30 Amp 3W,4P	20	3	EBR3034EH20	EBR3034FB20	EBR3034HFB20
		30	3	EBR3034EH30	EBR3034FB30	EBR3034HFB30
		40	3	EBR3034EH40	EBR3034FB40	EBR3034HFB40
		50	3	EBR3034EH50	EBR3034FB50	EBR3034HFB50
	60 Amp 2W,3P	50	2	EBR6023EH50	EBR6023FB50	EBR6023HFB50
		60	2	EBR6023EH60	EBR6023FB60	EBR6023HFB60
		70	2	EBR6023EH70	EBR6023FB70	EBR6023HFB70
		90	2	EBR6023EH90	EBR6023FB90	EBR6023HFB90
		100	2	EBR6023EH100	EBR6023FB100	EBR6023HFB100
	60 Amp 3W,4P	50	3	EBR6034EH50	EBR6034FB50	EBR6034HFB50
		60	3	EBR6034EH60	EBR6034FB60	EBR6034HFB60
		70	3	EBR6034EH70	EBR6034FB70	EBR6034HFB70
		90	3	EBR6034EH90	EBR6034FB90	EBR6034HFB90
		100	3	EBR6034EH100	EBR6034FB100	EBR6034HFB100
	100 Amp 2W,3P	50	2	EBR1023EH50	EBR1023FB50	EBR1023HFB50
		70	2	EBR1023EH70	EBR1023FB70	EBR1023HFB70
		90	2	EBR1023EH90	EBR1023FB90	EBR1023HFB90
		100	2	EBR1023EH100	EBR1023FB100	EBR1023HFB100
	100 Amp 3W,4P	50	3	EBR1034EH50	EBR1034FB50	EBR1034HFB50
		70	3	EBR1034EH70	EBR1034FB70	EBR1034HFB70
	90	3	EBR1034EH90	EBR1034FB90	EBR1034HFB90	
	100	3	EBR1034EH100	EBR1034FB100	EBR1034HFB100	
150 Amp 3W,4P	100	3	N/A	N/A	EBR15034FD100♦	
	150	3	N/A	N/A	EBR15034FD125♦	
	150	3	N/A	N/A	EBR15034FD150♦	

- Circuit Breakers are Westinghouse (Cutler-Hammer). Add GE after EH, FB, or HFB for GE Circuit Breakers.
- † Flip cover suitable for NEMA 3, 3R only. Select screw cover for 4, 4X. Both covers are included with product. NEMA 4 rating maintained with Appleton NEMA 4 plug installed.
- ♦ Add suffix -GB to Cat. No. for Group B. (Group B version not suitable for NEMA 4, 4X)
- * Do not use where electrically conductive dusts are present (most coal dusts are *not* electrically conductive).
- ♦ Molded Case Switch available. Add suffix -K.

Class II, Div. 1 and 2
Groups F*,G
Class III
NEMA 3,3R,4,4X,5,9F*G

DBR Receptacles with Disconnect Switch or with Circuit Breaker: 30, 60, and 100 Amp; Dust-Ignitionproof

Weatherproof Spring Cover. 600V A.C. Max.
 Grounding thru Extra Pole and Shell.

DBR Receptacles with Disconnect Switch

U.S. Patent No. 3,735,078



DBR with Switch

Receptacle	Pole	Catalog Number
30 Amp 2W,3P	2	DBR3023DS
30 Amp 3W,4P	3	DBR3034DS
60 Amp 2W,3P	2	DBR6023DS
60 Amp 3W,4P	3	DBR6034DS
100 Amp 2W,3P	2	DBR1023DS
100 Amp 3W,4P	3	DBR1034DS

For Disconnect Switch Horsepower Ratings see page L-31.

DBR Receptacles with Circuit Breaker*

U.S. Patent No. 3,735,078



DBR with Breaker

Receptacle	Circuit Breaker Amp	Pole	Cat. No. with 480V A.C. EHD Breaker	Cat. No. with 600V A.C. FDB Breaker	Cat. No. with 600V A.C. FD Breaker
30 Amp 2W,3P	20	2	DBR3023EH20	DBR3023FB20	DBR3023HFB20
	30	2	DBR3023EH30	DBR3023FB30	DBR3023HFB30
	40	2	DBR3023EH40	DBR3023FB40	DBR3023HFB40
	50	2	DBR3023EH50	DBR3023FB50	DBR3023HFB50
30 Amp 3W,4P	20	3	DBR3034EH20	DBR3034FB20	DBR3034HFB20
	30	3	DBR3034EH30	DBR3034FB30	DBR3034HFB30
	40	3	DBR3034EH40	DBR3034FB40	DBR3034HFB40
	50	3	DBR3034EH50	DBR3034FB50	DBR3034HFB50
60 Amp 2W,3P	50	2	DBR6023EH50	DBR6023FB50	DBR6023HFB50
	70	2	DBR6023EH60	DBR6023FB60	DBR6023HFB60
	90	2	DBR6023EH70	DBR6023FB70	DBR6023HFB70
	100	2	DBR6023EH90	DBR6023FB90	DBR6023HFB90
60 Amp 3W,4P	50	3	DBR6034EH50	DBR6034FB50	DBR6034HFB50
	70	3	DBR6034EH60	DBR6034FB60	DBR6034HFB60
	90	3	DBR6034EH70	DBR6034FB70	DBR6034HFB70
	100	3	DBR6034EH90	DBR6034FB90	DBR6034HFB90
100 Amp 2W,3P	50	2	DBR1023EH50	DBR1023FB50	DBR1023HFB50
	70	2	DBR1023EH70	DBR1023FB70	DBR1023HFB70
	90	2	DBR1023EH90	DBR1023FB90	DBR1023HFB90
	100	2	DBR1023EH100	DBR1023FB100	DBR1023HFB100
100 Amp 3W,4P	50	3	DBR1034EH50	DBR1034FB50	DBR1034HFB50
	70	3	DBR1034EH70	DBR1034FB70	DBR1034HFB70
	90	3	DBR1034EH90	DBR1034FB90	DBR1034HFB90
	100	3	DBR1034EH100	DBR1034FB100	DBR1034HFB100

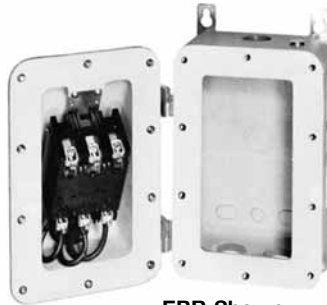
*Circuit Breakers are Westinghouse (Cutler-Hammer). Add GE after EH, FB, or HFB for GE Circuit Breakers.

† Flip cover suitable for NEMA 3, 3R only. Select screw cover for 4, 4X. Both covers are included with product. NEMA 4 rating maintained with Appleton NEMA 4 plug installed.

*Do not use where electrically conductive dusts are present (most coal dusts are *not* electrically conductive).

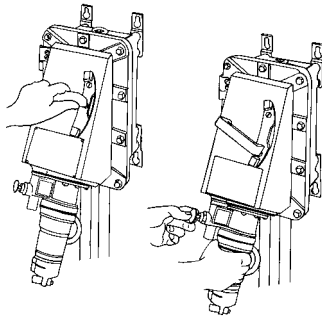
EBR/DBR Receptacles: Circuit Breaker and Disconnect Switch Data

30, 60, 100 and 150 Amp, 600V A.C. Maximum.



EBR Shown

Solderless lugs are provided for line connections, and receptacle is prewired to the load side of breaker. Cover-mounted components leave entire enclosure space free for pulling of line conductors and wiring.



EBR Shown

Plug is mechanically locked in receptacle when circuit breaker is ON. Design provides interlocked connect and disconnect operation as well as short circuit and thermal time delay overload protection.

Breaker operating handle can be padlocked in either "ON" or "OFF" position and is trip-free.

Enclosure has additional 3/4" threaded openings top and bottom for installation of optional drain and breather; reducers furnished.

EBR/DBR Circuit Breaker Data (Cutler-Hammer)

Frame	Continuous Amps.	Max Volts	Interrupting Ratings			
			Trip Range	(RMS SYM Amps)		
				240V	480V	600V
EHD	20-100	480	15-100	18,000	14,000	—
FDB	20-125	600	15-150	18,000	14,000	14,000
FD	20-125	600	15-150	65,000	25,000	18,000

EBR/DBR Horsepower Tables


These Cutler-Hammer circuit breaker recommendations are for induction motors running with usual speed and torque characteristics. Ambient temperature, and frequency of starting could require different protective characteristics.


	H.P.	120V	240V	480V	600V
EBR3023 DBR3023 (2W,3P, 1-Phase, 30A 2-Pole)	1	40EHD	20EHD	15EHD	15FDB
	1-1/2	40EHD	30EHD	15EHD	15FDB
	2	50EHD	30EHD	20EHD	15FDB
	3	—	40EHD	30EHD	20FDB
	5	—	—	40EHD	30FDB
	7-1/2	—	—	40EHD	40FDB
EBR6023 DBR6023 (2W,3P, 1-Phase, 60A 2-Pole)	3	50EHD	—	—	—
	5	100EHD	50EHD	—	—
	7-1/2	—	70EHD	—	—
	10	—	—	50EHD	40FDB
EBR3034 DBR3034 (3W,4P, 3-Phase, 30A 3-Pole)	1	—	15EHD	15EHD	15FDB
	1-1/2	—	15EHD	15EHD	15FDB
	2	—	20EHD	15EHD	15FDB
	3	—	30EHD	15EHD	15FDB
	5	—	40EHD	20EHD	20FDB
	7-1/2	—	50EHD	30EHD	30FDB
	10	—	—	40EHD	30FDB
	15	—	—	40EHD	40FDB
	20	—	—	—	50FDB
EBR6034 DBR6034 (3W,4P, 3-Phase, 60A 3-Pole)	10	—	50EHD	—	—
	15	—	70EHD	—	—
	20	—	—	50EHD	—
	25	—	—	50EHD	50FDB
	30	—	—	70EHD	50FDB
	40	—	—	—	70FDB
EBR1034 DBR1034 (3W,4P, 3-Phase, 100A & 150A 3-Pole)	20	—	100EHD	—	—
	25	—	100EHD	—	—
	30	—	150FD	—	—
	40	—	—	100EHD	—
	50	—	—	100EHD	100FDB
	60	—	—	125FD	100FDB
	75	—	—	—	125FDB

EBR/DBR Horsepower Rating Table (Disconnect Switch)

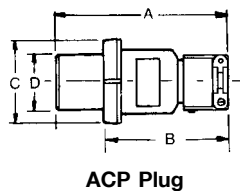
Max. Amp.	Max. Horsepower Rating					
	120 VAC	240 VAC	480 VAC	600 VAC	250 VDC	
30	5	10	20	25	7-1/2	
60	10	20	40	60	15	
100	15	30	75	75	25	
150	—	50	100	150	—	

Plugs for EBR, EBRH and DBR Receptacles, and Plug Dimensions

 ACP Plug	ACP Plugs for EBR, EBRH and DBR Receptacles							
	Cable Dia.,	30 Amp		60 Amp		100 Amp		150 Amp
	Inches	2W,3P	3W,4P	2W,3P	3W,4P	2W,3P	3W,4P	3W,4P
.390 to 1.375	ACP3023BC	ACP3034BC	ACP6023BC	ACP6034BC	-----	-----		
.875 to 1.906	-----	-----	-----	-----	ACP1023CD	ACP1034CD	ACP15034CD	
1.09 to 2.187	-----	-----	-----	-----	-----	-----	ACP15034DE	

 CPH Plug	CPH Plugs for EBR, EBRH and DBR Receptacles							
	Cable Dia.,	30 Amp		60 Amp		100 Amp		150 Amp
	Inches	2W,3P	3W,4P	2W,3P	3W,4P	2W,3P	3W,4P	3W,4P
.390 to 1.375	CPH3023BC	CPH3034BC	CPH6023BC	CPH6034BC	-----	-----	-----	-----

Dimensions of ACP Plugs



	No. Poles	A	B	C	D
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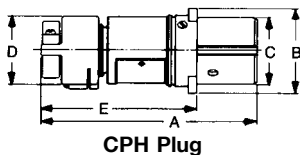
Dimensions in Inches

30 Amp	2,3,4	6.00	4.75	3.13	1.86
60 Amp	2,3	7.81	4.94	3.50	2.23
60 Amp	4	7.81	4.94	3.81	2.55
100 Amp	2,3	10.50	6.63	4.00	2.47
100 Amp	4	10.50	6.63	4.25	2.72
150 Amp (CD)	4	10.50	6.63	4.25	2.72
150 Amp (DE)	4	10.50	6.63	4.25	2.72

Dimensions in Centimeters

30 Amp	2,3,4	15.2	12.1	7.9	4.7
60 Amp	2,3	19.8	12.5	8.9	5.7
60 Amp	4	19.8	12.5	9.7	6.5
100 Amp	2,3	26.7	16.8	10.2	6.3
100 Amp	4	26.7	16.8	10.8	6.9
150 Amp (CD)	4	26.7	16.8	10.8	6.9
150 Amp (DE)	4	26.7	16.8	10.8	6.9

CPH Plugs



Max. Amps.	Wire/Pole	A	B	C	D	E
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Dimensions in Inches

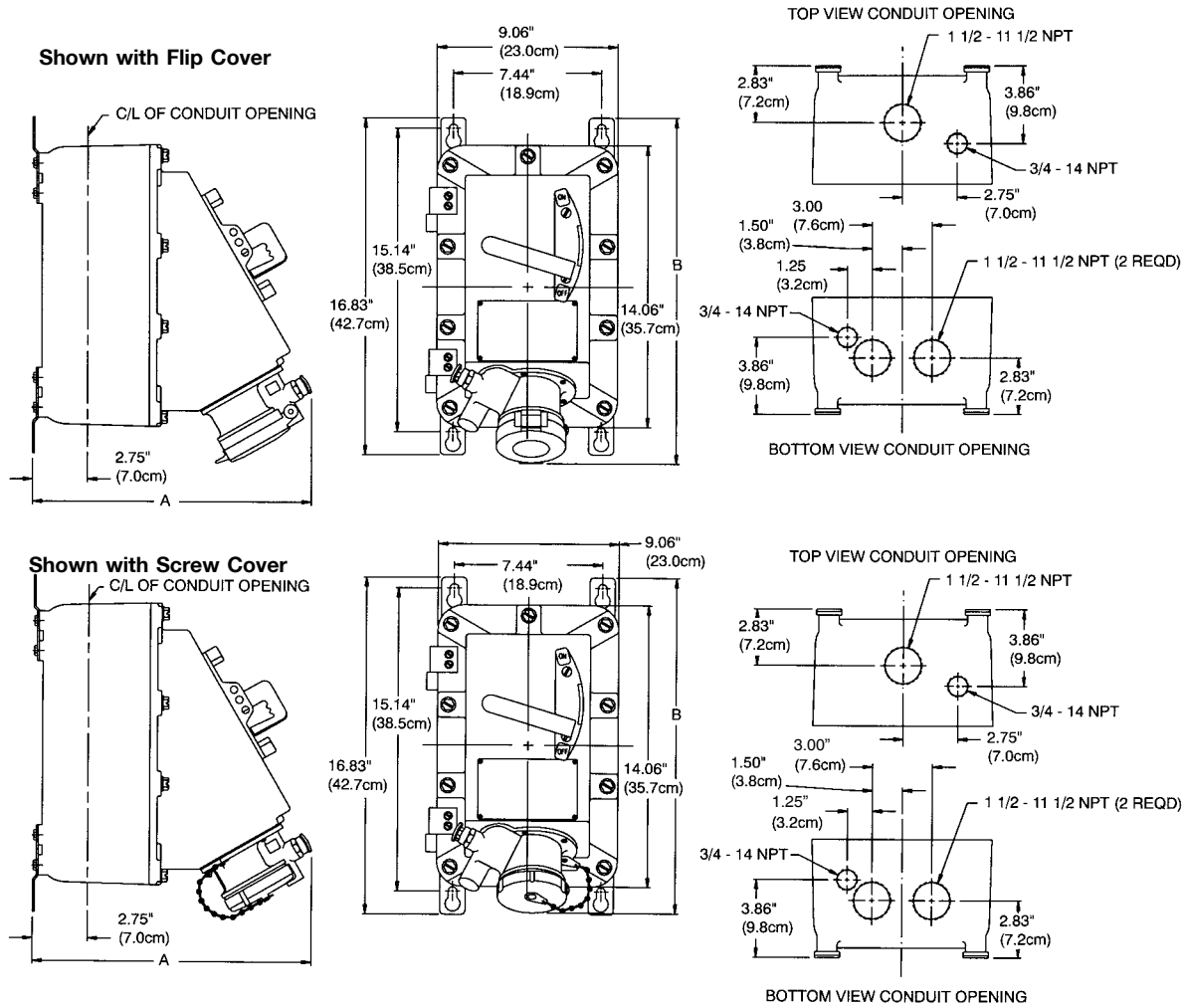
30	2W,3P;3W,4P	6.13	2.38	1.86	3.31	4.44
60	2W,3P	8.44	3.06	2.23	3.31	5.69
60	3W,4P	8.44	3.06	2.55	3.31	5.69

Dimensions in Centimeters

30	2W,3P;3W,4P	15.6	6.0	4.7	8.4	11.3
60	2W,3P	21.4	7.8	5.7	8.4	14.5
60	3W,4P	21.4	7.8	6.5	8.4	14.5

EBR/EBRH Dimensions

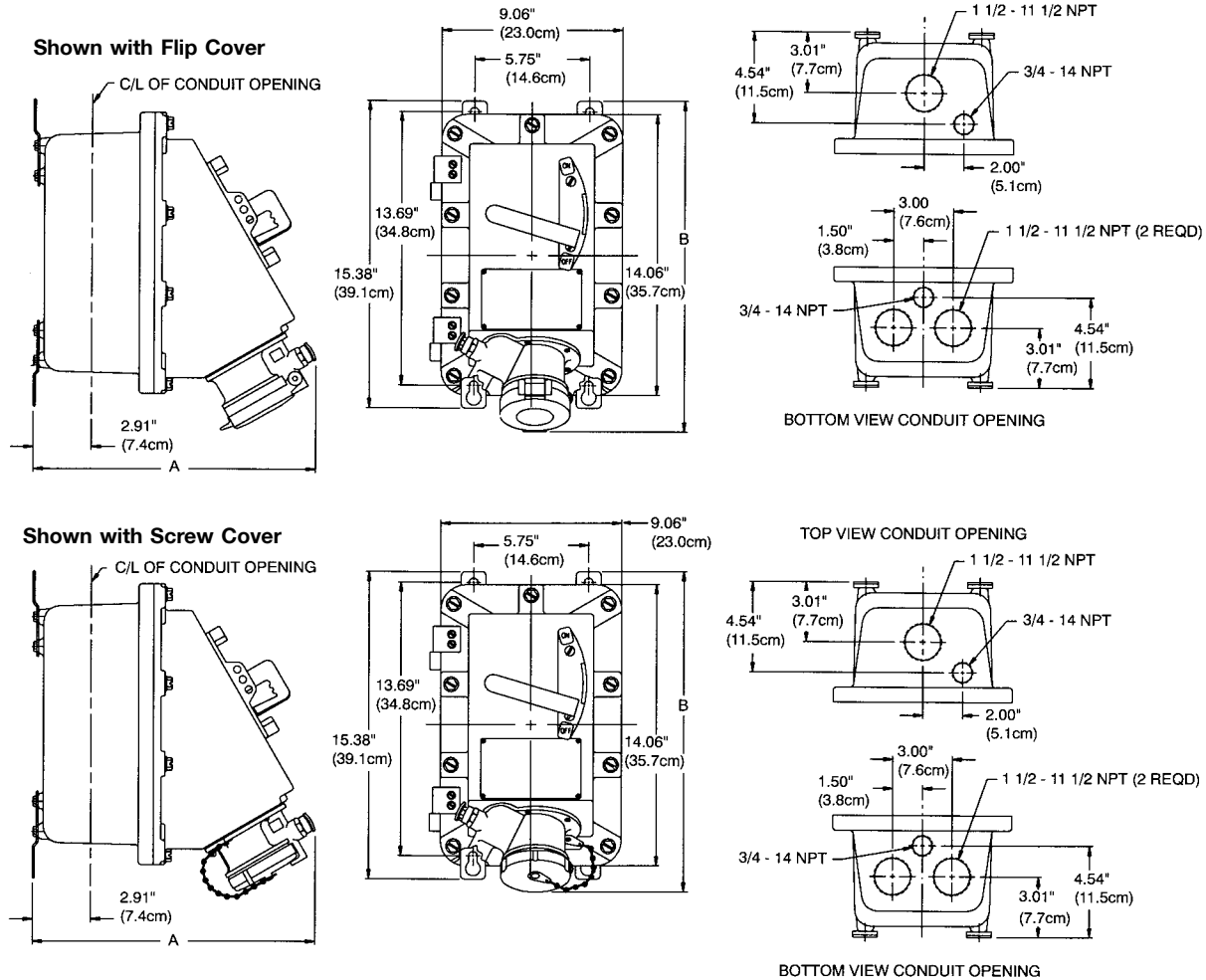
Dimensions of EBR and EBRH Receptacles



Current Rating (Amps)	Dimension "A" (Inches)	Dimension "B" (Inches)
30	13.95 (35.0cm)	17.30 (43.5cm)
60	13.95 (35.0cm)	17.30 (43.5cm)
100,150	13.95 (35.0cm)	17.30 (43.5cm)

DBR Dimensions

Dimensions of DBR Receptacles



Current Rating (Amps)	Dimension "A" (Inches)	Dimension "B" (Inches)
30	14.14 (35.4cm)	16.57 (41.4cm)
60	14.14 (35.4cm)	16.57 (41.4cm)
100	14.14 (35.4cm)	16.57 (41.4cm)

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ECC:
Class I, Div. 1 and 2
Groups B,C,D
Class II, Div. 1 and 2
Group G
Class III
NEMA 7BCD,9G
Watertight

ECC 20 Amp Factory Sealed Portable Cord Connector: Explosionproof, Dust-Ignitionproof TGP and TGR Grounding

ECC Connects Portable Cord to Explosion-Proof Fixed Enclosure.
 TGP and TGR for Static Discharge Safety Grounding.



20A., 480V A.C. or D.C.
 For use with No. 18 thru 12 A.W.G. 3-Conductor Type S or SO Cord.
 Furnished with 90°C Wire Leads*

Nipple Size	Cord Dia.	UL Listed	Catalog Number	CSA Certified
1/2	.250 to .375	ECC503RH	ECC503RH-C	
1/2	.375 to .500	ECC505RH	ECC505RH-C	
1/2	.500 to .625	ECC506RH	ECC506RH-C	
3/4	.250 to .375	ECC753RH	ECC753RH-C	
3/4	.375 to .500	ECC755RH	ECC755RH-C	
3/4	.500 to .625	ECC756RH	ECC756RH-C	

* 12" leads of #12 stranded wire are furnished for connection to wiring or equipment within the explosion-proof housing.

Description	Catalog Number
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Grounding Stud (Zinc Plated Steel)

Fits into 13/32" hole drilled in vehicle framework and/or suitable ground. (Available in brass; consult factory)

TGP

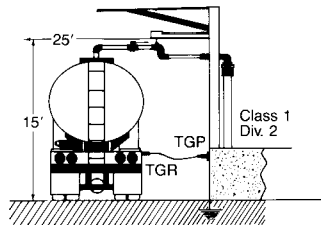


Grounding Plug

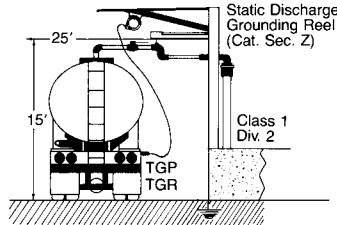
Clips over TGP Grounding Stud. Cord not furnished-No.8 single conductor Type "S" recommended.

TGR

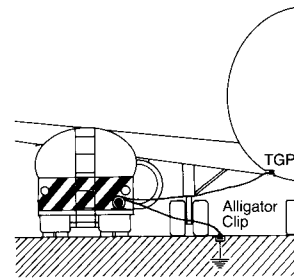
Typical TGP/TGR Applications



TGP Studs and TGR Plug used at gasoline bulk station. Studs permanently installed on truck and building.



Grounding Reel installed on building. Here TGR Plug replaces alligator clip furnished as standard with reel.

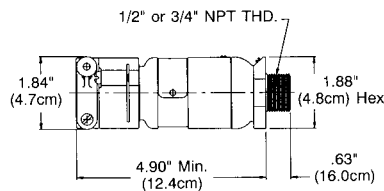


Grounding Reel installed on truck. Alligator Clip attaches to TGP Stud, which is permanently installed on airplane.

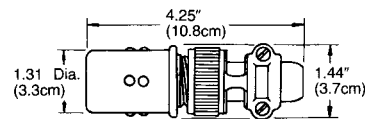
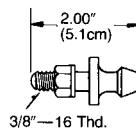


Static Discharge Grounding Reel (Cat. Sec. Z)

Dimensions of ECC Cord Connector



Dimensions of TGP Grounding Stud and TGR Plug



Class I, Div. 2
Groups B,C,D
Class II, Div. 1 and 2
Groups F*,G
Class III
Class I, Zone 2, Group IIC T3
NEMA 3,3R,4†,4X†,9F*G,12

MD2SR Interlocked Switched Receptacles

Dead Front Interlocked Construction; Factory Sealed;
 No External Seals Required

Applications

- Locations where receptacles are used with stationary or portable electrically operated devices such as lighting systems, conveyors, heaters, motor generator sets, air conditioners, compressors, and pumps.

Features

- Factory Sealed; No external seals required.
- Available in fused and unfused versions.
- UL Listed for use with Appleton ACP plugs.
- UL Classified for use with Crouse-Hinds APJ plugs.
- Positive polarization; only plugs of the same style, number of poles, and amperage rating may be used with these receptacles.
- Patented "Sure-Lock" mechanism. Plug must be inserted into the receptacle before the switch can be turned on. Plug cannot be withdrawn unless the switch is in the off position.
- Cover bolts are stainless steel and captive.
- Standard epoxy powder coating inside and outside delivers exceptional corrosion resistance.
- Insulated, dual-color polymer operating handle clearly indicates the switch being energized. Ergonomically designed handle is made of high-impact polymer material for exceptional ruggedness, durability and corrosion resistance.
- Utilizes Style 2 grounding. (See page D4)
- Removable hinged cover allows for ease of installation and maintenance.
- Short circuit withstand rated to 200,000 RMS Symmetrical Amperes (Class J Fusing).
- Short circuit withstand rated to 10,000 RMS symmetrical amperes (unfused).
- Conduit entry is drilled and tapped to 1-1/2". Reducer bushings 1-1/2"-1-1/4" and 1-1/2"-1" provided at no additional cost.
- Stainless Steel key-hole mounting feet for easy installation.



- Accommodates #8 – #4/0 AWG copper wire.
- Unit is equipped with defeatable door interlock which allows emergency access when switch is energized.
- Cover can be padlocked closed.
- Operating handle can be locked in the OFF position with provision to lock in the ON position.

Standard Materials

- Enclosure— copper-free aluminum with epoxy powder coating inside and outside.
- Operating handle—High impact polymer.
- Hardware—Stainless Steel.

Options

- One normally opened, one normally closed auxiliary switch, add suffix **-AUX**.
- Special polarization add suffix **-P4**.

Compliances

- UL Listed, UL File E10784
- UL Standard 498, 1682, 50, 98

* Do not use where electrically conductive dusts are present (most coal dusts are not electrically conductive).

† Flip cover suitable for NEMA 3, 3R only. Select screw cover for 4, 4X. Both covers are included with product. NEMA 4 rating maintained with Appleton NEMA 4 plug installed.

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Class I, Div 2
 Groups B,C,D
 Class II, Div 1 and 2
 Groups F*,G
 Class III
 Class I, Zone 2, Group IIC T3
 NEMA 3,3R,4†,4X†,9F*,12

MD2SR Interlocked Switched Receptacles

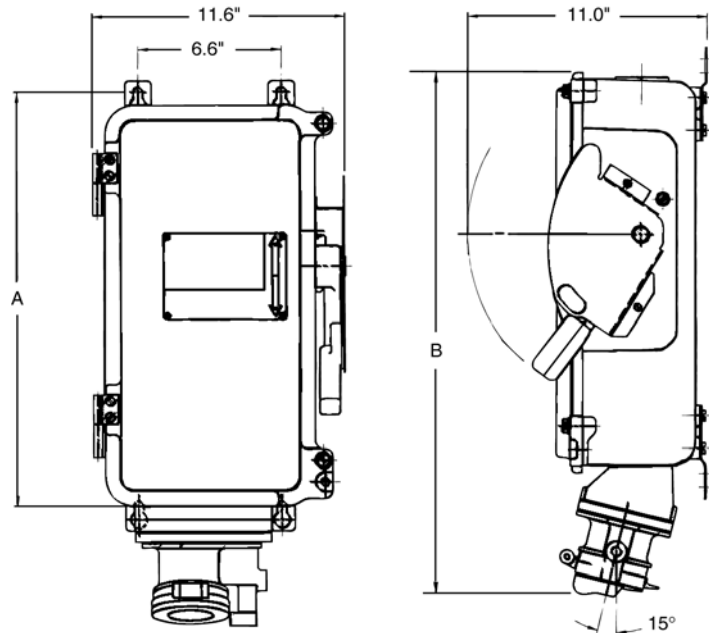
Dead-front interlocked construction; Factory sealed;
 No external seals required.

Amps	Fusing	Wires/Poles	Max HP	Mating Plug	Catalog Number
30	Non-Fused	2W, 3P	3 HP @ 240VAC	ACP3023BC	MD2SR3023U
30	Fused	2W, 3P	3 HP @ 240VAC	ACP3023BC	MD2SR3023F
30	Non-Fused	3W, 4P	20 HP @ 600VAC	ACP3034BC	MD2SR3034U
30	Fused	3W, 4P	30 HP @ 600VAC	ACP3034BC	MD2SR3034F
60	Non-Fused	2W, 3P	7.5 HP @ 240VAC	ACP6023BC	MD2SR6023U
60	Fused	2W, 3P	10 HP @ 240VAC	ACP6023BC	MD2SR6023F
60	Non-Fused	3W, 4P	50 HP @ 600VAC	ACP6034BC	MD2SR6034U
60	Fused	3W, 4P	50 HP @ 600VAC	ACP6034BC	MD2SR6034F
100	Non-Fused	2W, 3P	10 HP @ 240VAC	ACP1023CD	MD2SR1023U
100	Fused	2W, 3P	10 HP @ 240VAC	ACP1023CD	MD2SR1023F
100	Non-Fused	3W, 4P	50 HP @ 600VAC	ACP1034CD	MD2SR1034U
100	Fused	3W, 4P	50 HP @ 600VAC	ACP1034CD	MD2SR1034F

MD2SR Interlocked Receptacle with Enclosed Switch

Catalog No.	A	B
MD2SR3023U	19.25"	24.33"
MD2SR3023F	19.25"	24.33"
MD2SR3034U	19.25"	24.33"
MD2SR3034F	19.25"	24.33"
MD2SR6023U	19.25"	24.33"
MD2SR6023F	19.25"	24.33"
MD2SR6034U	19.25"	24.33"
MD2SR6034F	19.25"	24.33"
MD2SR1023U	19.25"	24.33"
MD2SR1023F	22.88"	27.96"
MD2SR1034U	19.25"	24.33"
MD2SR1034F	22.88"	27.96"

Shown with Flip Cover



* Do not use where electrically conductive dusts are present (most coal dusts are not electrically conductive).

† Flip cover suitable for NEMA 3, 3R only. Select screw cover for NEMA 4, 4X. Both covers are included with product.

◆ Fused units contain fuse holders; fuses not included.

