LARSON ELECTRONICS
9419 US-HWY 175
Kemp, TX 75143 USA

INSTALLATION, OPERATION & MAINTENANCE DATA SHEET
EPCO-20A SERIES CONNECTOR

EPCO-20A SERIES for use in:

® Class I, Groups B, C & D; Class II, Groups F* (Coal or Coke Dust) and G, Class III

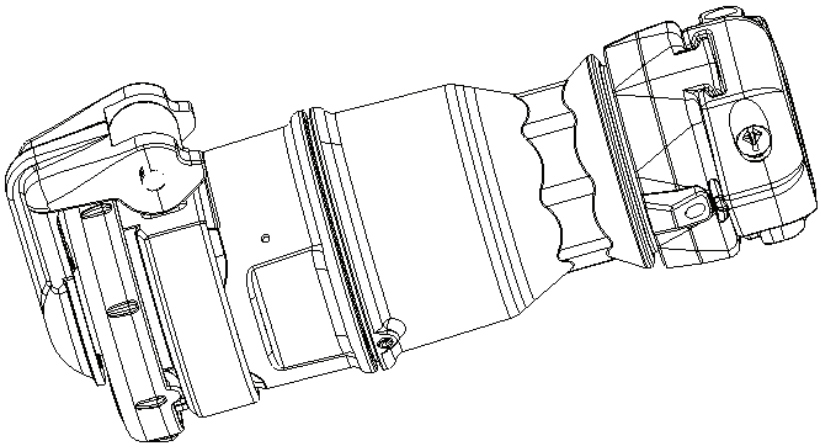
US ® Class II, Groups F* and G, Class III

Type 3, 4 Locations, as defined by the Canadian Electrical Code and the National Electrical Code.

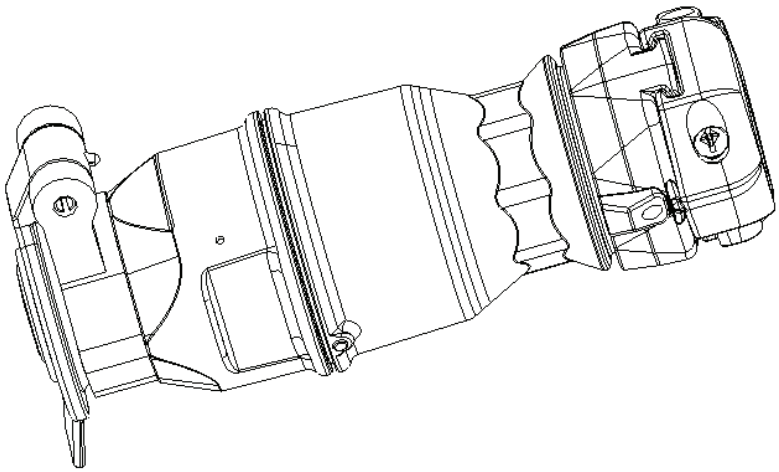
READ THIS SHEET CAREFULLY BEFORE BEGINNING INSTALLATION.

WARNING: Electrical power **MUST BE OFF** during installation, or performing any maintenance. **Disconnect** primary power source and **lock out**. This device **must** be installed by trained, qualified and competent personnel. Installation **must** comply with local, state and national regulations, as well as safety practices for this type of equipment.

FIGURE 1 **General view of *EPCO Series CONNECTORS***



BREECH LID SHOWN



FLIP LID SHOWN

Breech - N4X when Cap Closed, N3 when in use.
Flip - N3 Hinge Up or in use.
Certified for Intermateability with Appleton® & Crouse-Hinds® plugs.
(* : F without Electrically Conductive dust)

DIRECTIONS FOR INSTALLATION

ASSEMBLY :

1.) Disassemble the Connector assembly as shown in **Figure 2**. Loosen clamp guide setscrew and turn clamp guide assembly to remove from connector body. Loosen connector body setscrew and turn connector body to remove from acceptor receptacle body.
2.) Slide clamp guide assembly, with cable clamp properly assembled, and the grommet washer over the power cable being used. Refer to National Electrical Code Table 400-5 or Canadian Electrical Code Table 12 when selecting the conductor size.
3.) Determine how many "inner layers" of the onion skin grommet are to **REMAIN** by simply removing the "inner layers" until the grommet slips over the power cable. Remove the "inner layers" as needed from the grommet, one layer at a time, by pushing through to solid side and tearing off. See **Figure 3**.
4.) Place the onion skin grommet over the power cable with the "SOLID" side facing the clamp guide assembly and slide connector body over power cable.
5.) ***WIRING*:**
Loosen the terminal screws on the terminal base. **NOTE:** Use **only** copper wire with this device (10, 12 or 14 AWG). Reference **Figure 4** to strip the cable jacket and individual wires. Recommended conductor connection is crimp fork or ring terminals; or loop the wires and attach them to the proper terminal screws: Green lead (Ground, if provided) to screw at Ground strap (marked Green); White (Neutral) lead to terminal at White mark (125V. only); Black and/or Red [Line lead(s)] to unmarked terminal(s). See **Figure 5**. Hand tighten terminal screws to 10 in.-lbs. of torque.
6.) Thread connector body onto Acceptor receptacle body and tighten until Acceptor gasket thickness has compressed by at least half of its original thickness. Hand tighten connector body setscrew to 8 in.-lbs. of torque.
7.) Slide onion skin grommet down power cable into connector body. Force power cable into connector body to provide a minimum 1/8" strain relief in the wire between clamp and insulator. Slide grommet washer into clamp guide assembly. Screw clamp guide onto connector body.
8.) Hand tighten the clamp guide set screw to 10 in.-lbs. of torque.
9.) Hand tighten the cable clamp screws around power cable to 25 in.-lbs. minimum torque, alternating sides as needed to prevent binding.

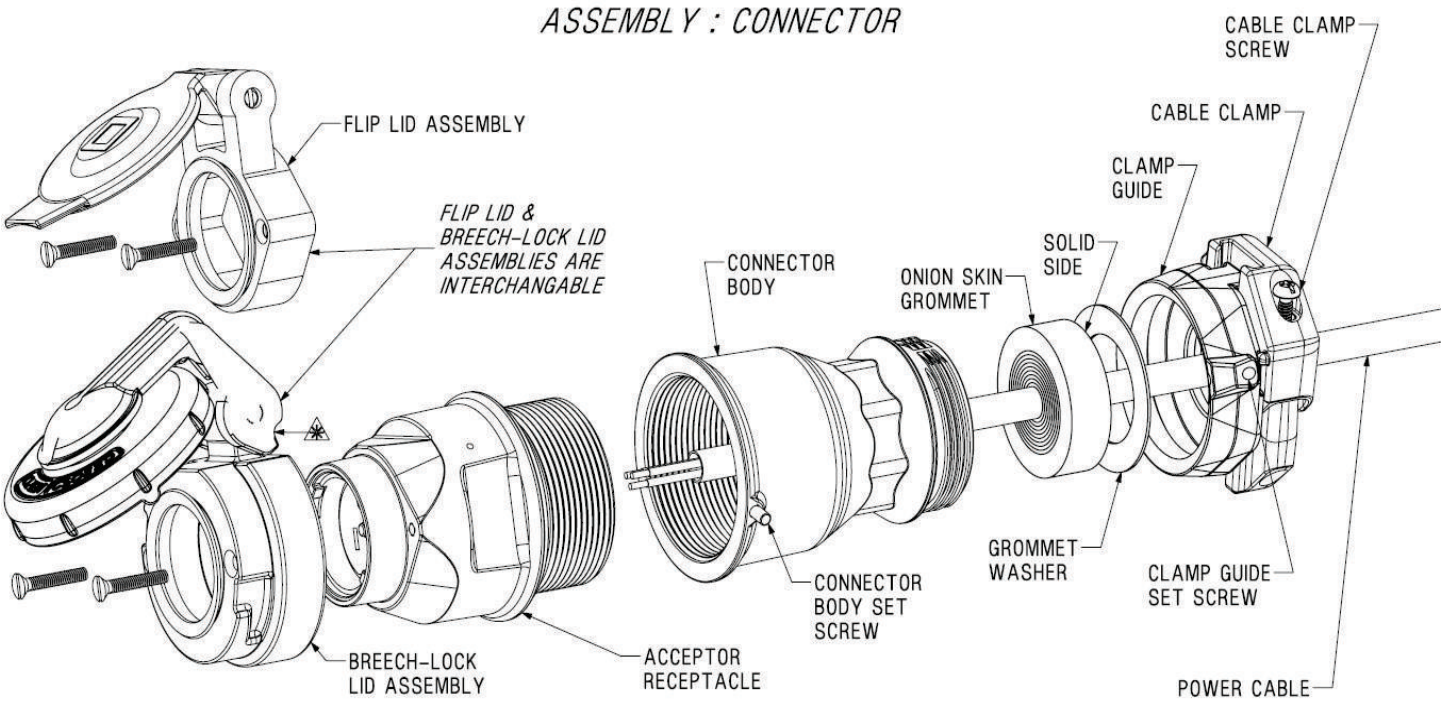
LID ASSEMBLY or replacement

1.) Remove the existing lid assembly by removing the (2) #8-32 screws holding it in place and ensure that the face of the Acceptor receptacle is free of obstructions.
2.) Align the flat surface of the lid assembly with the flat step feature of the receptacle body and install the lid assembly to the receptacle, as shown in **Figure 2**.
3.) Utilize the existing or the (2) #8-32 screws provided in the kit to secure the lid.
4.) Hand tighten the screws evenly; making sure that the inside diameter of the lid gasket seal remains circular and undistorted.

OPERATIONAL DATA

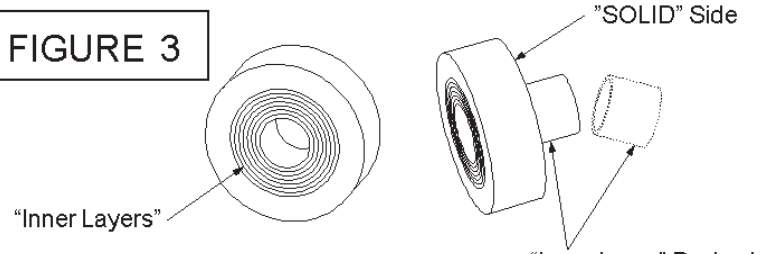
1.) Lift receptacle door and insert plug all the way into the receptacle.
2.) Turn plug to clockwise limit (45°). This closes internal contacts and completes circuit.
3.) Release plug. Plug will move outward to "LOCK" position. Check by trying to turn plug without pushing inward; plug should not turn.
4.) To remove plug, push plug inward and turn to counter-clockwise limit (45°). Pull plug straight out.

FIGURE 2



▲ NOTCH allows use of screwdriver or similar item to hold lid open for “hands-free” plug insertion or removal.

FIGURE 3

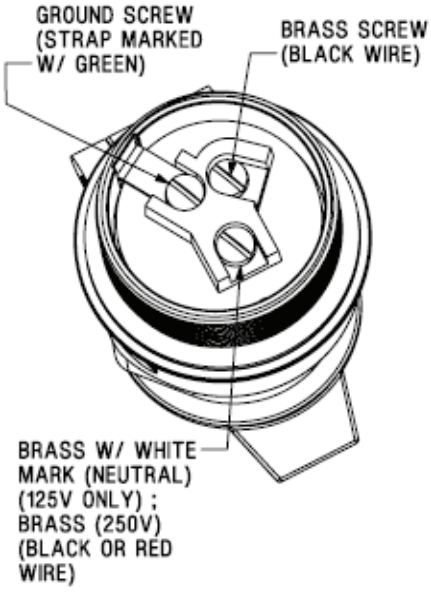


CABLE DIAMETER RANGE FOR UGRC CONNECTORS

AMPERES	CABLE DIA. RANGE (IN.)
15/20	.535-.635

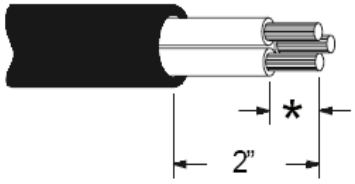
Determine How Many "Inner Layers" **REMAIN** by slipping grommet over cable.

FIGURE 5



WIRE RANGE AND STRIPPING GUIDE

FIGURE 4

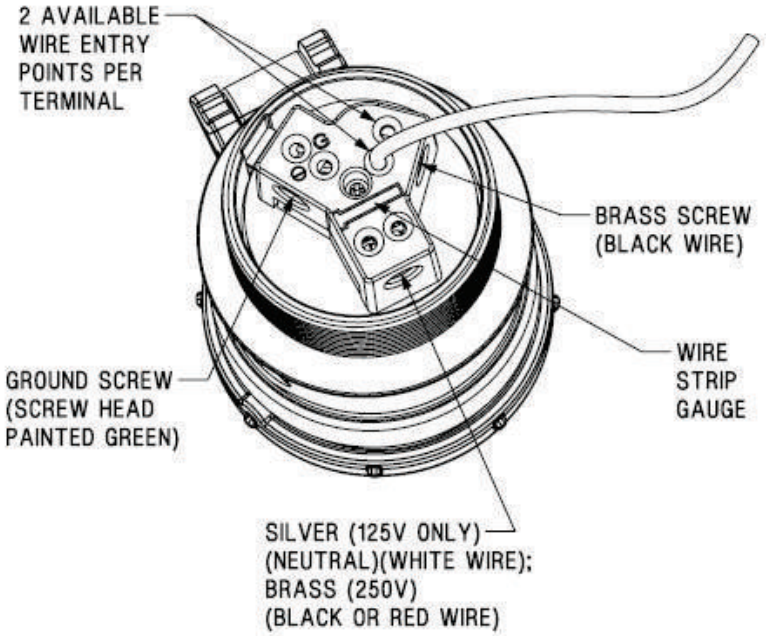


* Strip gage on insulator: Gage: #14 - #12 (5/8”)

Rated for use with TYPE S, SO, ST, STO, SOOW portable cords or equivalent, with COPPER conductors only, of the sizes listed.

FIGURE 6

TERMINAL CONNECTIONS



WIRING *(See **Figure 6**)* ***:***

1.) **NOTE:** Use **only** copper wire with this device (10, 12 or 14 AWG). Recommended wire strip length – ½ inch nominal. Loosen all (3) Terminal Contact Screws and insert wire through the Wiring Entrance holes, into proper terminals: Green lead (Ground) to terminal with ground mark & Green screw head; White (Neutral) lead to terminal with Silver screw head (125V. only); Black and/or Red [Line lead(s)] to terminal(s) with Brass screw head. Hand tighten terminal screws (recommended torque 8 in.-lbs).

TABLE 1

CONNECTOR RATING	LARSON **CONNECTOR CAT. NO.**	PLUG **RATING**	KILLARK **PLUG CAT. NO.**	APPLETON **PLUG CAT. NO.**	CROUSE-HINDS **PLUG CAT. NO.**
125V, 20A, 1 hp	**EPCO-20A**	125V, 15A, 1 hp	UGP-15231(QW)	(E or N)CP-1523	ENP-5151

MAINTENANCE DATA

These devices require no maintenance other than a periodic cleaning and a check for proper operation. Also, check cord and fasteners for damage and/or wear. Inspections should be performed on a regular basis (minimum yearly); determined by the environment and usage.

WARNING: Disconnect and **Lock Out** supply circuit before starting maintenance work.

1.) To clean receptacle, it is recommended that a soft, non-metallic bristle brush be used.

2.) Check tightness of all accessible screws.

3.) Inspect the entire assembly (including cord) for damage, wear & proper function. If necessary, consult Larson Electronics factory for availability of replacement parts and discontinue use of the equipment until repairs are made.

An Electrical Preventive Maintenance Program, such as the National Fire Protection Association Bulletin NFPA No. 70B, is recommended.

MAINTENANCE MANAGER: Please record the following information for your records:

COMPLETE CATALOG NO. _____
(As shown on nameplate)

INSTALLED BY _____

DATE OF INSTALLATION _____