FSQ Series Interlocked Receptacle and Switch

IF926

Installation and Maintenance Information

APPLICATION

FSQ Series dead front interlocked receptacles and switches are designed to provide connection and distribution of secondary electrical power (600 volts or less) between a power source and portable or sationary electrical equipment. FSQ Series receptacles are supplied in 2-wire, 3-pole and 3-wire, 4-pole arrangements with four different types of receptacle designs, each of which is polarized to prevent mismatching. Specific designs are used with Crose-Hinds APJ, NPJ, CPH, BP and FP Series ARKTITE® plugs with the same electrical ratings and configurations. Refer to Crouse-Hinds 4000 Series catalogs for a complete listing of compatible FSQ Series dead front receptacles and matching ARKTITE plugs.

FSQ Series receptacles are dead front where plug and receptacle contacts cannot be made or broken under load. The plug must be fully inserted in the receptacle and rotated clockwise to manually operate the enclosed switch, closing the circuit to the receptacle.

FSQ Series receptacles are suitable for use in Class I, Groups B,C,D; Class II, Groups F, G and Class III hazardous (classified) areas as defined by the *National Electrical Code*®. Certain FSQC units are also available modified for Class I, Group B usage (identified by Suffix GB added to catalog number). Conduit seals must be installed immediately adjacent (within 18 inches) to each conduit opening.

CAUTION

To reduce the risk of ignition of hazardous atmospheres, do not use in Class II, Group F locations that contain electrically conductive dusts.

INSTALLATION

WARNING

Electrical power must be turned off before and during installation and maintenance.

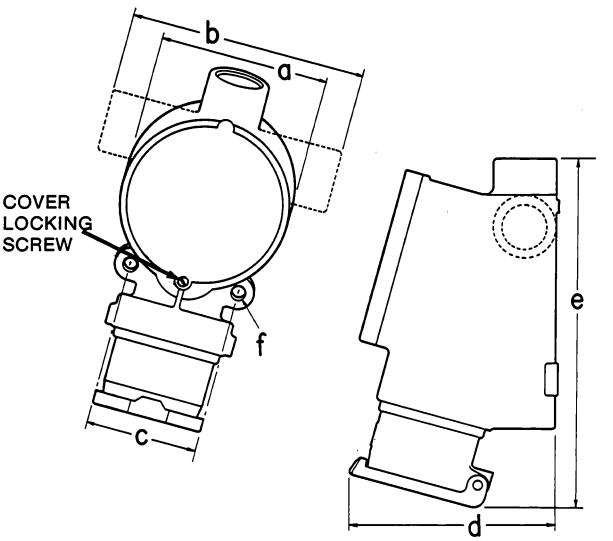
1. Select a mounting location that will provide suitable strength and rigidity for supporting the enclosure and contained wiring.

2. Securely fasten enclosure to the mounting surface and attach into conduit system.

CAUTION

Hazardous location information specifying class and group listing of each device is located on the nameplate.

Conduit sealing fittings may be required to be installed to comply with the latest edition of *National Electrical Code* Section 501-5 or 502-5 plus any other applicable standards.



Maximum Dimensions (in.)

Catalog Number	a	b	c	d	e	f
FSQC2320, 3320 FSQC2430, 3430 FSQC2390, 3390	4¼		3⅛	5¼	9¼	⅜
FSQ230, 330 Series	4¼	6⅛	3⅛	5¼	10¼	⅜
FSQ232, 332 Series FSQ233,333 Series	4¼	6⅛	3⅛	5½	9½	⅜
FSQ223	3⅝		2	4	7¼	

Figure 1.
Dimensions

3. With enclosed switch in **off** position, turn cover locking screw clockwise (inward). Cover locking screw is accessible through hole located in lower edge of cover. See Figure 1. Unscrew cover.

   Note: Turning cover screw clockwise (inward) engages a groove in the receptacle interior, preventing its rotation. This added safety feature prevents the enclosed switch from being operated by the plug when the cover is removed.

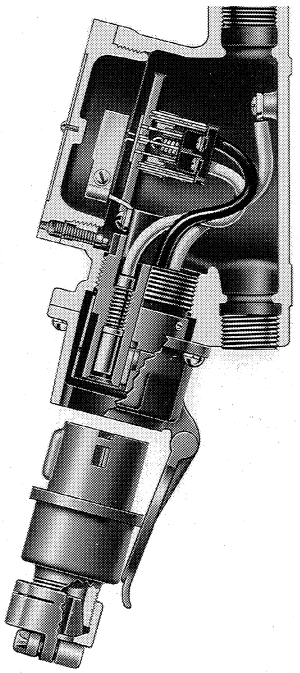


Figure 2.
Typical FSQ Receptacle With BP Plug — Cutaway View

4. Establish a wiring pattern for your system.

WARNING

Before installing a FSQ Series receptacle, a wiring pattern must be established for your system. Locations having different voltages, frequencies or types of current (AC or DC) **must not** have interchangeable attachment plugs per Section 210-7 of the *National Electrical Code*. For each system the same colored wire must be put into the same numbered contact on all plugs and receptacles in that system. This will assure correct system polarity and eliminate the possibility of equipment damage and/or personal injury due to misphasing or shorts. **Always test before energizing.**

FSQ Series receptacles are polarized so plug enters receptacle only one way. This provides for proper polarity of conductors through plug and receptacle.

Note: Receptacles identified with the addition of Suffix S4 to catalog number are supplied with receptacle contacts rotated 22-1/2 degrees for special polarity applications. They are compatible only with plugs built with the same special feature.

Contacts in the receptacle insulating body are identified by number and/or color of wire. Corresponding plug contacts must always mate with those in receptacle identified by the same color conductor and/or contact number.

The conductors listed in Table 1 are identified by the color of insulation on each individual conductor. These colors agree with those given in Section 210-5 of the *National Electrical Code* for multi-wire branch circuits; an additional wire, uninsulated or identified green is for grounding and complies with Section 250-42, 250-45 and 250-59 of *National Electrical Code*. If conductors are not identified with exactly these colors, they may be assumed in making proper connections.

TABLE I

Receptacle Style	Color of Conductors	Receptacle and Plug Contact Identification	
		By Number	By Color**
3-Pole	White* Black Green	Contact #2 Contact #1 GR — (Grounding Contact	White Red Unidentified
4-Pole	White* Black Red Green	Contact #2 Contact #3 Contact #1 GR — (Grounding Contact)	White Orange Red Unidentified

* White wire or terminal must not be used for grounding. If one conductor is uninsulated, or identified green, this wire is for grounding. If no green or bare wire is available, another wire may be connected through plug and receptacle connections to conduit or some other noncurrent-carrying conductor permanently grounded in accordance with Article 250 of the *National Electrical Code**.

** ARKTITE plugs manufactured prior to 1982.

5. Pull all branch circuit and ground conductors into enclosure, providing sufficient length to connect to enclosed switch terminals (or terminal block).

6. Make electrical connections utilizing the wiring pattern established for your system. Connect branch circuit conductors to enclosed switch screw terminals (or terminal block) with corresponding terminals connected through same (or similar) colored conductors attached to receptacle contacts. Connect green grounding conductor to receptacle grounding screw.

Note: Conductors of excessive length may crowd the switch contacts and restrict proper switch operation. All conductors must be routed around — **never under** — the switch.

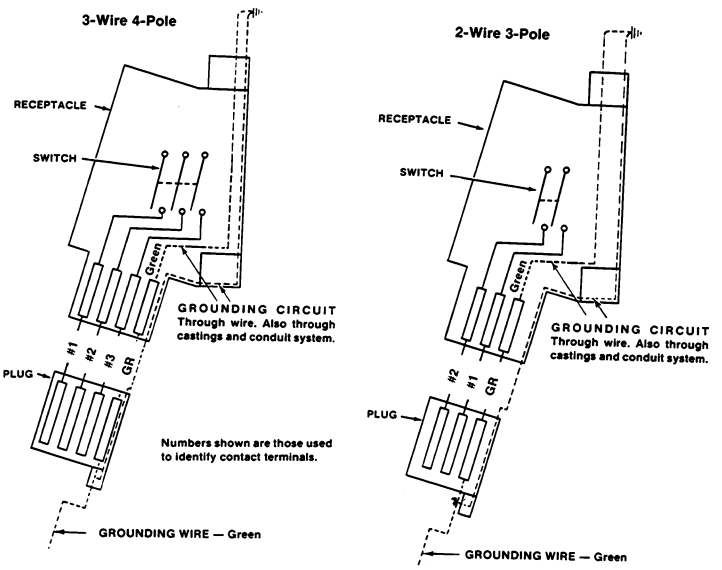


Figure 3.
Wiring Diagrams

CAUTION

Receptacle housing **must be** securely attached into a permanently grounded conduit system in accordance with Article 250 of the *National Electrical Code*.

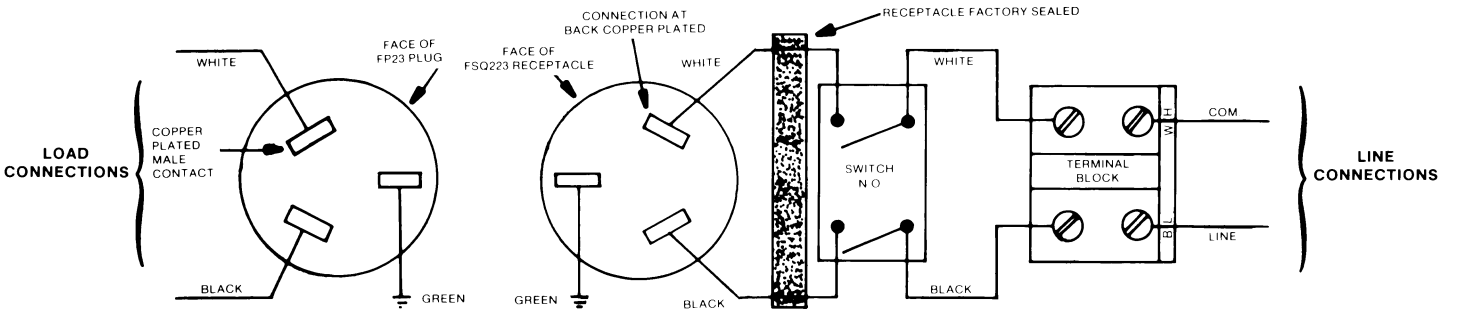


Figure 4.
Wiring Diagrams for FSQ223 Receptacle and FP23 Plug.

7. Rethread cover into enclosure housing. Tighten cover until cover flange contacts body face. Back off slightly to align access hole in lower edge cover with cover screw.

CAUTION

Check for dirt, grit, or other foreign material on the threads. If any such material settles on these threads, clear them with kerosene or Stoddard solvent*, then relubricate with Crouse-Hinds Type STL-thread lubricant.

(*To avoid the possibilities of an explosion, oxidation and corrosion, do not use gasoline or similar solvents.)

8. Turn cover screw counterclockwise (outward). This will lock cover in place and release the receptacle interior to that the plug may be rotated and internal switch contacts activated.

ELECTRICAL TESTING

Do not connect to power until the following electrical tests have been performed.

- Make continuity check of wiring to verify correct phasing and grounding connections.
- Check insulation resistance to be sure system does not have any short circuits or unwanted grounds.

MAINTENANCE

Electrical and mechanical inspection of all components must be performed on a regular schedule determined by the environment and frequency of use. It is recommended that inspection be performed a minimum of once a year.

WARNING

If any parts of the plug, receptacle or connectors appear to be missing, broken, or show signs of damage,
DISCONTINUE USE IMMEDIATELY.
Replace with the proper replacement part(s) before continuing service.

1. Inspect all contact wire terminals for tightness. Discoloration due to excessive heat is an indicator of a possible problem and should be thoroughly investigated and repaired as necessary.
2. Check grounding and bonding for correct installation and secure connection.
3. Clean exterior surfaces making sure nameplates remain legible.
4. Check tightness of all screws before using.
5. Inspect housings and replace those which are broken.
6. Check contacts for signs of excessive arcing or burning and replace if necessary.

In addition to these required maintenance procedures, we recommend an Electrical Preventive Maintenance program as described in the National Fire Protection Association Bulletin NFPA No. 70B.

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 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 intended use and assumes all risk and liability whatsover in connection therewith.

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