

30, 60 AND 100 AMP WSRD SERIES, ENCLOSED SAFETY SWITCHES WITH INTERLOCKED ARKTITE® RECEPTACLES IF 1034

INSTALLATION & MAINTENANCE INFORMATION • SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

APPLICATION

WSRD, Heavy duty NEMA TYPE 12 Series enclosed safety switches with interlocked ARKTITE receptacles are designed to provide connection and distribution of secondary electrical power (600 volts or less) between a power source and portable or stationary electrical equipment. Fusible type WSRD switches also provide short circuit protection. WSRD Series switches with interlocked ARKTITE receptacles are supplied in both 3-wire, 3-pole fusible and non-fusible arrangements with Style 1 grounding where ground is connected through the shell; and 3-wire, 4-pole fusible and non-fusible arrangements with Style 2 grounding where ground is connected through an extra pole and the shell. Refer to Crouse-Hinds Product Catalog for a detailed description of these grounding methods.

WSRD Series switches are interlocked both with the enclosure door and ARKTITE receptacle. The plug cannot be withdrawn or inserted unless the switch is open (OFF). The enclosure cover cannot be opened when plug is engaged and the switch

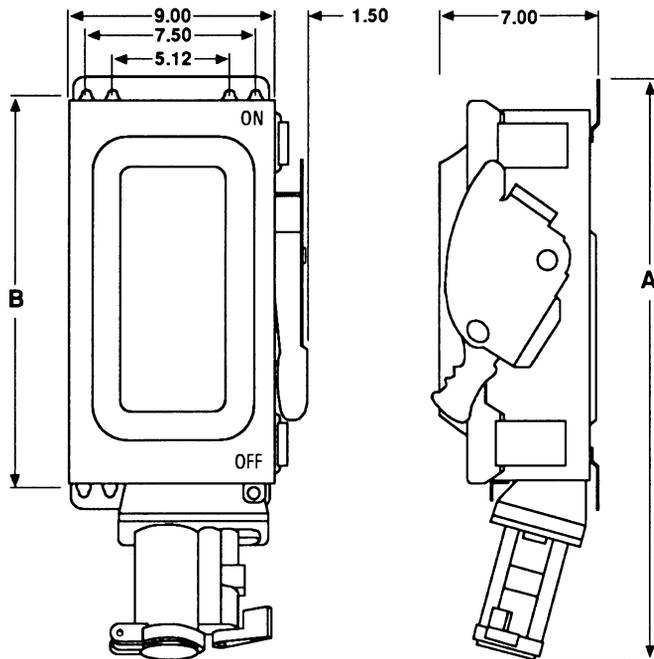
is closed (ON). When the switch is open (OFF) the switch cannot be put in a closed (ON) position with the door open.

The ARKTITE receptacles supplied with the WSRD Series enclosures are polarized to prevent mis-matching. Each receptacle mates with a specific Crouse-Hinds APJ, NPJ, and CPH Series ARKTITE plug with the same electrical rating, grounding style and contact configuration. Refer to Crouse-Hinds Product Catalog for a complete listing of WSRD Series safety switches with interlocked ARKTITE receptacles and matching ARKTITE plugs.

WSRD Series products are designed for use in industrial areas where dust, dirt, chemical vapors or moisture are present indoors.

The WSRD Series enclosure should be installed, inspected, operated and maintained by qualified and competent personnel.

DIMENSIONS



Dimension Chart		
Amp	Dimension A	Dimension B
30	24.88	16.75
60	25.25	16.75
100	30.00	20.75

Note: NEMA TYPE 12 latch operation requires minimum clearance of 2 1/4" on right side of enclosure.

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. Fasten unit to

mounting location with the four mounting lugs using 5/16 inch diameter mounting bolts or screws.

- Always locate enclosure in vertical position with receptacle pointing downward.
- The recommended mounting height from ground or floor level to the bottom of the receptacle is 42 to 52 inches.

WARNING

WSRD receptacle housing must be securely connected to a permanently grounded system in accordance with Article 250 of the National Electrical Code®.

- Determine the type of distribution system to be used that will comply with NEC requirements and ensure grounding continuity.

Proper grounding of systems and circuit conductors is required to limit hazardous voltages caused by lightning, line surges or unintentional contact with higher voltage lines and to stabilize the voltage to ground during normal operation. All conductive materials that house the electrical conductors or attached equipment or forming part of such equipment must be grounded. A permanent conducting connection must be made between all such equipment and the earth. See Figure 1.

- Connect enclosure to electrical distribution system. See Table 1, HP Rating/Wire Range for wire sizes. All WSRD Heavy Duty NEMA TYPE 12 safety switches meet NEC wire bending space requirements. Space is provided per Table 373-6b on line side for largest wire that may be used.

Table 1
HP Rating/Wire Range

	Amps	HP Rating			Al/Cu Wire Range (Line Side)
		600 VAC Std.	600 VAC Max.	250 VDC	
3-Pole, 4-Pole No Fuse	30	15	30	10	#14 - 6 AWG
3-Pole, 4-Pole Fusible	30	7.5	20	10	#14 - 6 AWG
3-Pole, 4-Pole No Fuse	60	-	50	10	#14 - 2 AWG
3-Pole, 4-Pole Fusible	60	15	50	10	#14 - 2 AWG
3-Pole, 4-Pole No Fuse	100	-	75	20	#14 - 1 AWG
3-Pole, 4-Pole Fusible	100	30	75	20	#14 - 1 AWG

Typical distribution systems are illustrated below:

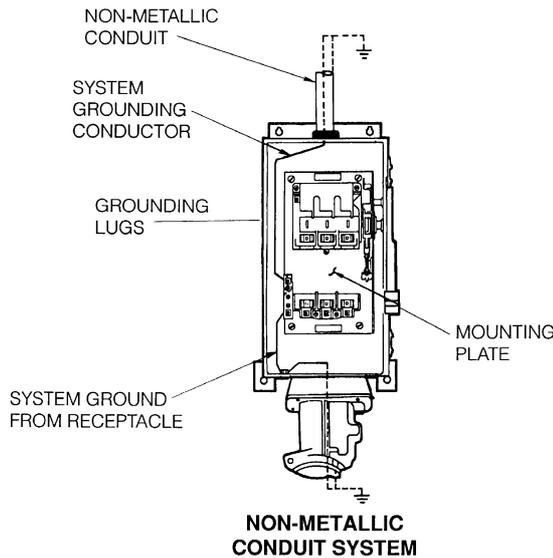
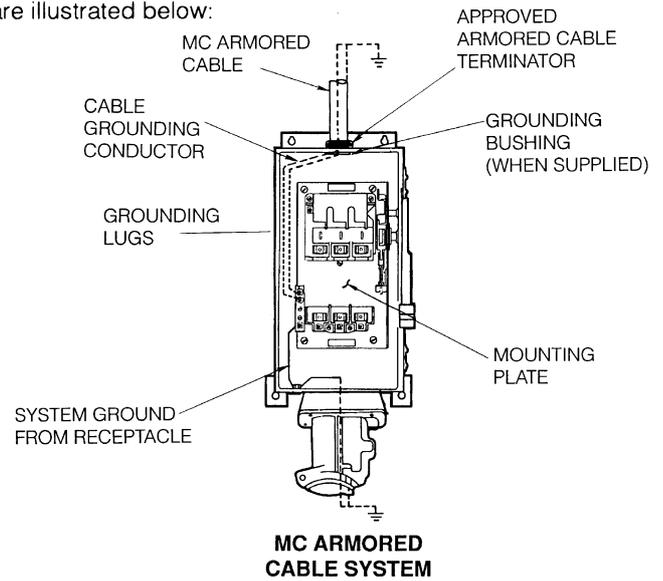
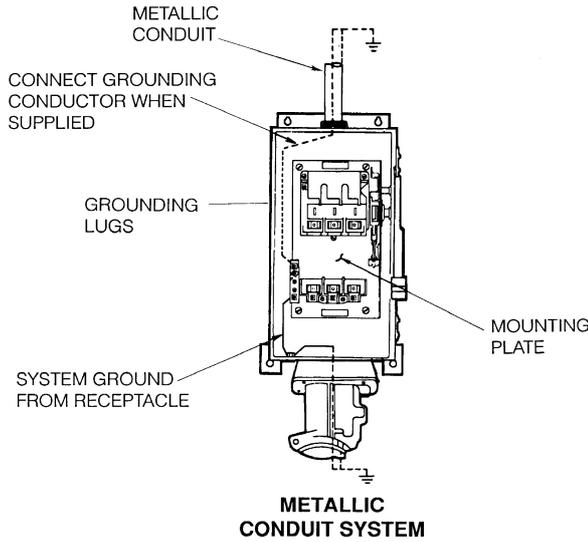


Figure 1. Grounding Systems

WIRING CONNECTIONS

1. Establish a wiring pattern for your system.

WARNING

Before installing a WSRD Series enclosed safety switch and interlocked ARKTITE 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 as stated in paragraph 210-7F of the National Electrical Code.

2. Pull all phase conductors into enclosure and make connections to the LINE pressure connector terminations following the wiring pattern established for your system. Connect grounding conductors. The ground conductor connected to the receptacle mounting bolt must be fastened to the ground terminal on the neutral block. See Figure 2.

3. Check plug/receptacle polarization. The ARKTITE® receptacles on the WSRD enclosures are polarized so that mating plugs can enter the receptacle only one way. Also, the mating contacts in the receptacle and corresponding plug are identified by numbers on the insulating recesses. Note: Some ARKTITE plugs manufactured prior to 1982 identify the mating contacts by color. Contact members in the receptacle must always mate with those in a plug identified by the same number (or color). This assures proper polarity or phase rotation of conductors through receptacle and plug. See Figure 3.

LINE PRESSURE CONNECTION TERMINATIONS

RECEPTACLE (LOAD) TERMINATIONS

GROUNDING TERMINATIONS

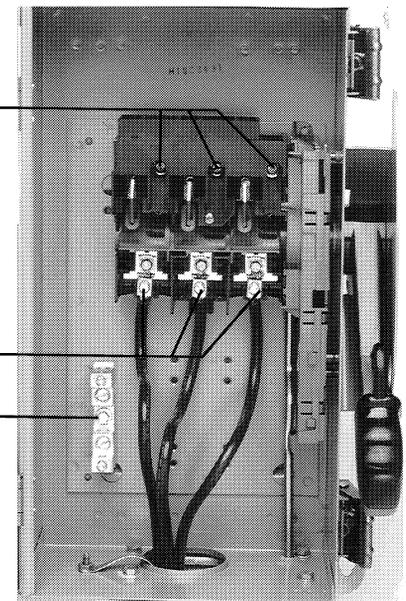
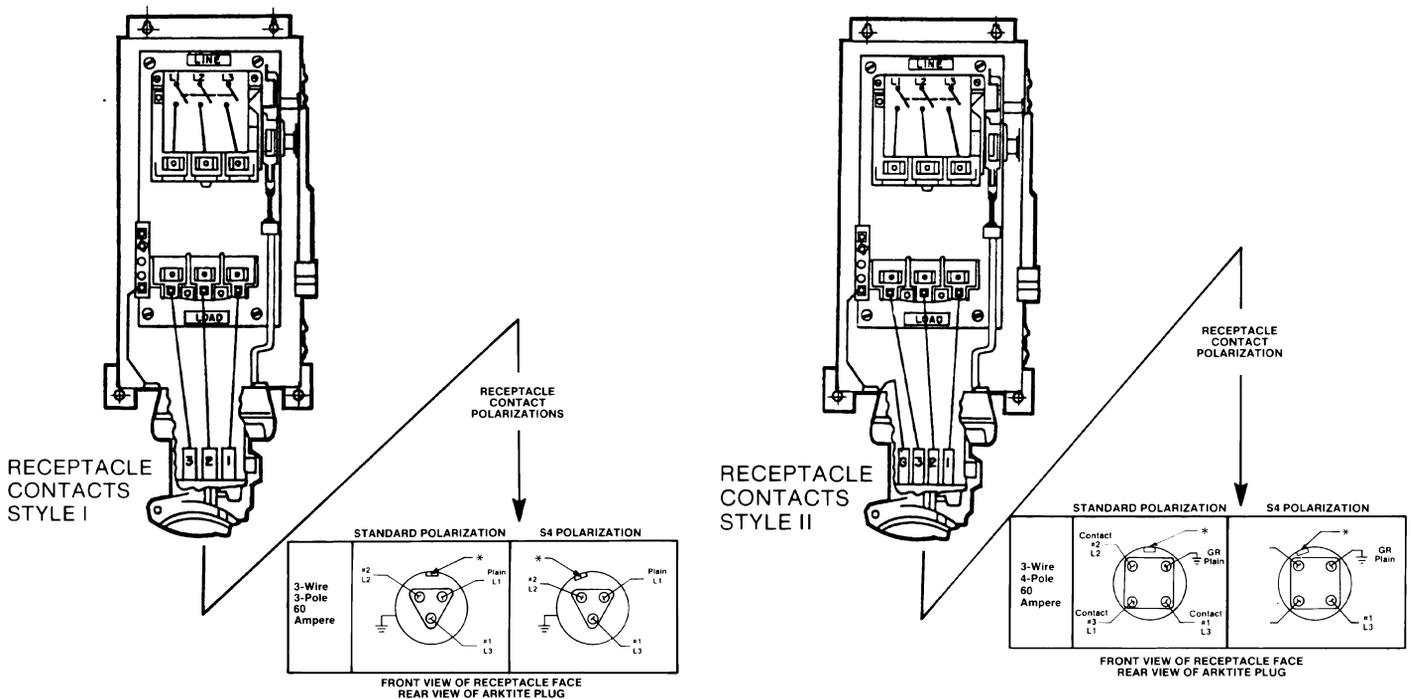


Figure 2. WSRD Interior

Before energizing this system, verify polarity correctness with a continuity check. Correct polarity MUST be ascertained before using the equipment.

Check insulation resistance to be sure system does not have any short circuits or unwanted grounds.



* POLARIZATION KEYWAY OR KEY (Keyway is groove, key may be extended form or rivet.)

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Style I Grounded Through Receptacle Shell

Style II Grounded Through Extra Ground Contact

Figure 3. Contact Polarization

4. Install proper rated cartridge fuses (not included with enclosure) in fusible type safety switches. WSRD fusible safety switches are factory-set for Class H fuses and are rated to withstand 10,000 amps RMS symmetrical. These switches may be field altered for Class R or J fuses by using conversion kits for Class R fuses or adjusting base position for Class J fuses. When so fused, and with proper rejection feature in place, these switches may be used on circuits capable of delivering up to 100,000 amps RMS symmetrical.
5. Test wiring for correctness with continuity checks and for unwanted grounds with insulation resistance tester. An insulation resistance of less than one megohm on an open circuit is an unsafe condition and must be corrected prior to turning the power on.
6. Place operating handle in open (OFF) position then close cover and secure with two compression spring draw pull catches.
7. Before turning on power to WSRD enclosure, check safety interlock mechanism for proper operation.
 - The plug cannot be inserted or withdrawn unless the switch is open (OFF).
 - The enclosure door cannot be opened when the plug is inserted and the switch closed (ON). When the switch is open (OFF), it cannot be put in a closed (ON) position with the door open.

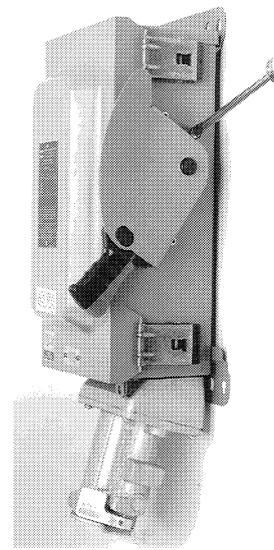


Figure 4.
Door Interlock Defeat Operation
(for Authorized Personnel Only)

CAUTION

Forcing the switch operator handle mechanism without using proper ARKTITE® plug or with enclosure door open will damage safety interlock.

DOOR INTERLOCK DEFEAT

CAUTION

Turn power off before using interlock defeat mechanism.

The door interlock defeat mechanism should be used only when it is impossible to service the equipment with the interlocks in place.

The defeat mechanism must be used only by qualified personnel trained in the proper maintenance of electrical equipment.

To use interlock defeat mechanism, insert screwdriver in slot and rotate clockwise until cover releases. See Figure 4.

MAINTENANCE

WARNING

Always disconnect primary power source before opening enclosure for inspection or service.

1. Frequent inspection should be made. A schedule for maintenance check should be determined by the environment and frequency of use. It is recommended that it should be at least once a year. We recommend an Electrical Preventive Maintenance program as described in the National Fire Protection Association Bulletin NFPA No. 70B.
2. Perform visual, electrical, and mechanical checks on all components on a regular basis.
 - Visually check for undue heating evidenced by discoloration of wires or other components, damaged or worn parts, or leakage evidenced by water or corrosion in the interior.
 - Electrically check to make sure that all connections are clean and tight, and that blade contacts make or break as required.
 - Mechanically check that all parts are properly assembled, interlocks working, and operating mechanisms move freely.

WARNING

If any part of the switch, receptacle and/or plug appears to be broken or damaged,
DISCONTINUE USE IMMEDIATELY
Replace, or properly repair the item before continuing service.

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 whatsoever in connection therewith.