W2ST SERIES, ENCLOSED SAFETY SWITCHES
For Class I, Div. 2 Areas • Installation & Maintenance Information

APPLICATION

W2ST Series Enclosed Heavy Duty Safety Switches are used in conduit systems as a means of disconnecting power from motors, lighting and power circuits.

W2ST Series switches may be pole mounted or installed on flat vertical surfaces in industrial areas that are subjected to dust, dirt, chemical vapors, or moisture, both indoors or outdoors.

The switch is factory sealed making the W2ST suitable for use in Class I, Division 2, Groups B, C and D hazardous environments. The enclosure is rated Type 3R.

The cover is interlocked with the body and operating mechanism to prevent opening of the enclosure, except when the switch is in the "OFF" (open) position.

CAUTION

The W2ST Safety Switch enclosure should be installed, inspected, maintained and operated by qualified and competent personnel.

DIMENSIONS

<table>
<thead>
<tr>
<th>Amps</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>30/60/100</td>
<td>6-9/16</td>
<td>20-1/16</td>
<td>11-3/4</td>
<td>7-1/4</td>
</tr>
</tbody>
</table>

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 enclosure to mounting location with the four mounting lugs using 3/8 inch diameter mounting bolts or screws. The mounting lugs may be rotated 90 degrees or moved to the vertical centerline position for pole mounting.

WARNING

W2ST housing must be securely attached into a permanently grounded system in accordance with Article 250 of the National Electrical Code®.

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 enclose 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.

Typical distribution systems are illustrated below:

Figure 1 Grounding Systems

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3. Attach enclosure into electrical distribution system. See table for conduit opening sizes. Removal of the threaded bushings will permit use of a larger conduit size. The locknut and bushing used must meet the requirements of the National Electrical Code®.

**Table 1 - CONDUIT OPENINGS**

<table>
<thead>
<tr>
<th>Switch Rating (amp)</th>
<th>Conduit Openings (in.)</th>
<th>with reducer</th>
<th>without reducer</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>1</td>
<td>1-1/2</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>1-1/4</td>
<td>1-1/2</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>1-1/4</td>
<td>1-1/2</td>
<td></td>
</tr>
</tbody>
</table>

**CAUTION**

When wiring to switch terminal, be sure to insert the wire between the bearing plate of the terminal and the base of the lug. The screw must bear on the bearing plate and NOT directly on the wire.

5. Pull all load side conductors into enclosure and make connections to the LOAD pressure connector terminations following the wiring pattern established for your system.

6. Test wiring for correctness with continuity checks and for unwanted grounds with insulation resistance tester.

7. Place operating handle in "OFF" position, then close cover and secure with the two compression spring draw-pull catches.

8. Before turning on power to W2ST safety switch, check cover safety interlock for proper operation. With the cover closed, place operating handle into "ON" position and verify that the cover cannot be opened (with catches loose).

**CAUTION**

Forcing the switch operator handle mechanism without enclosure door properly closed and latched will damage safety interlock.

**MAINTENANCE**

**WARNING**

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

1. Frequent inspection should be made. A schedule for maintenance checks should be determined by the environment and frequency of use. It is recommended that it should be at least once a year.

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, 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 are clean and make or break as required.

- Mechanically check that all bars are properly assembled, and operating mechanisms move freely.

**WARNING**

If any part of the switch components appear to be broken or damaged

DISCONTINUE USE IMMEDIATELY.

Replace or properly repair the item before continuing service.