FDA, FDB, FDC, PANEL SPD



Installation Instructions:

- Verify System Voltage by measuring L-N, L-G, L-L and N-G of the system. Confirm that the SPD is correctly rated for the system to which it is to be connected. The measured voltage should match the nominal operating voltage of the product, the maximum continuous operating voltage (MCOV) specifications must not be exceeded.
- 2. Identify Proper Location for the SPD. Locate the unit as close as physically possible to the panel being protected so as to minimize lead lengths (improves performance) and the need for sharp bends in the wires. There is no minimum wire length requirement. Mount top and bottom flanges securely.
- 3. **Connect Proper Ground**. An insulated grounding conductor that is the same size and insulating material to the grounded and ungrounded circuit supply conductors, is to be installed as part of the circuit that supplies the SPD. The FD Compact includes 914mm (3") of #10AWG, in accordance with the National Electrical Code, for this purpose. The grounding conductor is to be connected at the service equipment or other acceptable building ground. Attach the grounding conductor to the panel's ground bus for proper operation. For isolated ground systems, bond the grounding conductor from the SPD to the non-isolated equipment ground, no the isolated equipment ground.
- 4. **Connect Neutral Conductor.** Measure and trim the neutral conductor to be as straight and short as possible. Connect the neutral conductor to the neutral lug on the panel.
- 5. **Connect Phase Conductors.** Wires are labeled L1, L2, and L3. With the POWER OFF, connect each black phase lead. Upstream over current protection is not required. It is required to install the SPD downstream or on the load side of the main supply fuse. **Note:** SPDs connected to High Leg Delta systems have one of the phase wires identified. This lead must be connected to the high leg (normally Phase B) of the power system.
- 6. **Nearby Attachment-Plug Receptacles.** Any attachment-plug receptacles in the vicinity of the SPD are to be of a grounding type, and the grounding conductors serving these receptacles are to be connected to earth ground at the service equipment or other acceptable building earth ground such as the building frame in the case of a high-rise steel-frame structure.
- 7. **Connector and Lugs.** Pressure terminals or pressure splicing connectors and soldering lugs must not be dissimilar to the metals in the conductors.
- 8. Activate Unit. When the power is applied, the RED diagnostic lights will indicate that the unit is operational and protection is being provided. If the status lights do not illuminate, please recheck any supply fuse as well as the phase, neutral and ground connections.
- 9. Alarm Conditions. The RED diagnostic lights will not be illuminated. Check the power connections and supply fuses if this condition occurs. If power is being correctly supplied to all phases and the alarm condition remains, the unit requires replacement.

Connect Remote Monitoring (Optional). If needed, dry contacts (N/O, N/C & Common) are located behind the lower mounting plate. To connect to the remote terminals, temporarily remove the upper mounting plate . Slide the unit out of its enclosure, make the connections to the mating terminals with 2.79mm x 0.51mm (part number TE 175411-1) remote spade terminals. To make a connection to the terminals provided for this purpose, remove the metal grommet in the end plate, and install an watertight insulated nylon cable gland (1/2" / 12.7mm) with an UL-94 V2 rating. Complete the installation of the remote indication circuit wiring by back feeding the alarm wiring out through the insulated nylon conduit gland in the lower mounting plate. Reassemble by reattaching both mounting plates. Remote Status Indicator Dry Contacts are rated at a max 30V resistive load/1.0A, max 125VAC/0.3A general use.



The Remote Terminals are labeled as follows: Terminal 1 - COM Terminal 2 - NO Terminal 3 - NC Note: In the "normal" state Terminal 1 and Terminal 3 are connected. In the event of

Note: In the "normal" state Terminal 1 and Terminal 3 are connected. In the event of operation of one of the disconnectors due to an internal fault condition Terminal 1 will be connected to Terminal 2.

Flush Mounting Instructions:

- 1. Loosen the front screws on the end plates as shown in Figure 1. Apply FCP Mounting Brackets and retighten screws.
- 2. Attach flexible conduit (not included in the FCP kit) to the TDX unit.
- 3. Mark and cut out section of drywall allowing approximately 1/2" clearance around enclosure and attached Flush Cover Plate Mounting Brackets.
- 4. Align FCP with drywall opening, mark locations of drywall anchors (not included) and install anchors per manufacturer's instructions. Insert SPD into drywall cutout and connect flexible conduit to electrical panel (Fig 2).
- 5. Attach Flush Cover Plate to the SPD unit using the 4 Mounting Screws provided (Fig 3).
- 6. Secure the Flush Cover Plate to the drywall using the drywall anchors.



DANGER: Electrical shock or burn hazard. Installation of this SPD should only be done by qualified personnel. Failure to lockout electrical power during installation or maintenance can result in fatal electrocution or severe burns. Likewise, improper installation, misuse, misapplication or other failure to follow these installation instructions and warnings may cause product malfunction, property damage, serious bodily injury and/or death.

SAFETY INSTRUCTIONS: Always use appropriate safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

WARNING: Check to make sure system voltages do not exceed the SPD voltage requirement and that the correct SPD voltage/model has been selected. This unit must be installed in accordance with the National Electrical Code (ANSI/NFPA-70) and applicable legal codes. Ungrounded power systems can produce excessively high line-to-ground voltages during certain fault conditions which may subject the an SPD to voltages which exceed their designed ratings.

Notice: Do not cut wires until the SPD is mounted and minimum wire lengths have been verified. All connection leads should be cut to minimum possible length; never coil or push aside excess length.