3.0 Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak kA per Phase</td>
<td>XT50=50 kA, XT100=100 kA</td>
</tr>
<tr>
<td>Peak kA per Mode</td>
<td>50</td>
</tr>
<tr>
<td>Nominal Discharge Current</td>
<td>20 kA</td>
</tr>
<tr>
<td>Single-Phase Voltages</td>
<td>200, 208, 220, 230, 240, 277</td>
</tr>
<tr>
<td>Split-Phase Voltages</td>
<td>100/200, 110/220, 120/240</td>
</tr>
<tr>
<td>Input Power Frequency</td>
<td>47 to 420 Hz (50/60 Hz typical)</td>
</tr>
</tbody>
</table>

Protection Modes
- Single Phase: L-N, N-G, L-G
- Split Phase: L-N, N-G, L-G, L-L
- Wye: L-N, N-G, L-G, L-L
- Delta: L-G, L-L

Ports: 1

Specific Energy: 100 kJ/Ohm

Operating Temperature: –13 to 140 °F (–25 to 60 °C)

Weight: ≈2.0 lbs (1.0 kg)

4.0 Operation

4.1 Power Up and System Checkout

Apply system power. One LED should light for each phase voltage being monitored (see Figure 4-1). Single-phase electrical systems will light only one LED, split-phase systems light two LEDs, while three-phase systems light all three.

If the connected LEDs do not light, remove power, check connections, and test again. If the LEDs still do not light, contact your supplier.

4.2 Routine Operation

After system power has been applied, the SPD automatically begins to protect down-stream electrical devices from damaging voltage transients.

With all phase voltages present, if an LED turns OFF, the SPD has disconnected itself from that phase of the electrical system because one of its Thermally Protected Metal Oxide Varistors (TPMOVs) has failed. If a TPMOV fails, power will be maintained to the load; however, the load is now unprotected.

The XT50/100 is not repairable and contains no user serviceable parts. If the unit fails, as shown by at least one of the LEDs turning OFF, the unit must be replaced. Please contact your distributor as the SPD may be under warranty.

DO NOT use the Suppression Circuit Status LEDs as an indication of the presence or absence of system phase voltages.

1 LED per phase

LEDs that light indicate TPMOVs for that phase are operational.

An LED that turns OFF indicates a failed TPMOV or loss of power.

Figure 4-1. Suppression Circuit Status LEDs

WARNING! SHOCK HAZARDS:

Do not perform a high-pot test with the SPD connected to the electrical system. Failure to disconnect the SPD during a high-pot test will result in damage to the SPD.

1.0 Introduction

This manual describes how to install an XT50 or XT100 Surge Protective Device (SPD) in parallel (shunt) across the AC supply of the following types of electrical systems:

- Single Phase
- Split Phase
- Phase Wye (Star)
- Phase Delta (no Neutral)

The SPD is designed to be installed on service entrance, branch panels, and/or individual equipment disconnects, and functions to protect sensitive electronic equipment from damaging voltage transients. The connecting wires do not carry supply current. Instead, they carry only short-duration currents that are associated with a transient event.

These instructions do not cover all details, variations, or combinations of the equipment, its storage, delivery, installation, checkout, safe operation, or maintenance. If you require further information regarding a particular application or installation that is not covered in this manual, please contact Eaton’s Power Quality Technical Support at 1-800-647-8877.

1.2 Catalog Numbering System

Per Phase Peak Surge Current (kA) XTY01

<table>
<thead>
<tr>
<th>Configuration &amp; Voltage Ranges (Vac)</th>
<th>XT 50 - 3Y201</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 105</td>
<td></td>
</tr>
</tbody>
</table>

In this example, Catalog Number XTY01-3Y201 identifies an XT model with the following features and ratings:

- Surge Current Rating of 50 kA peak per phase
- Three-Phase Wye Wiring Configuration
- Voltage Range of 220/380 through 277/480 Vac

For more information visit: www.Eaton.com
2.0 Installation
Refer to Section 1.2 and look at the label on the SPD to verify that the SPD’s voltage rating and wiring configuration matches that of the electrical system. Use an AC voltmeter to measure the system’s line voltage to ensure that the correct model of SPD is being installed. Damage to the SPD may result if it is connected to an electrical system of a higher voltage or different wiring configuration.

2.1 Mounting
The SPD can be mounted directly to the electrical panel, or mounted to a wall using the enclosure’s internal mounting holes or optional external mounting feet.

IMPORTANT!
- Choose a mounting location for the SPD that provides the shortest and straightest possible wiring (lead length) from the SPD to the electrical system connections. Excessive lead length and sharp bends will degrade SPD performance.
- If the electrical system uses an isolated ground, the SPD must be isolated from ground using insulated conduit fittings.
- When using conduit, avoid using 90° elbows and keep the conduit run as short and straight as possible.

2.1.1 Conduit Installation
Mount the SPD directly to the electrical panel using a 3/4” chase nipple as shown in Figure 2-1.

When mounting the SPD outdoors, use weatherproof conduit and fittings to maintain the enclosure’s NEMA 4X rating. See Figure 2-2.

2.1.2 Wall Mounting
Mount the SPD directly on a wall using the SPD’s internal mounting holes as follows:
1. Gain access to the internal mounting holes by first removing the SPD’s four front cover screws, and then removing the front cover. See Figure 2-3.
2. Place the SPD against the wall and mark the locations of the four mounting holes.
3. Attach the SPD to the wall using #8 hardware.
4. Reinstall the front cover.

![Figure 2-2. Conduit Installation](image)

![Figure 2-3. Wall Mounting Using Internal Mounting Holes](image)

2.1.3 External Mounting Feet (Optional)
Optional External Mounting Feet w/screws (Cat. # MNTGFTX) can be used to mount the SPD to a wall without removing the front cover as shown in Figure 2-4.

![Figure 2-4. Wall Mounting Using External Mounting Feet](image)

2.2 Wiring

![Figure 2-1. 3/4” Chase Nipple Mounting](image)

**IMPORTANT!**
- Be sure to follow all national, state, and local electrical codes when making wiring connections.
- When connecting the wires from the SPD to the electrical system, cut the wires as necessary to keep them as short as possible.
- To maximize the SPD’s performance, twist and bind the wires together to reduce the impedance of the wire (one twist/inch).
- If the system utilizes an isolated ground, the SPD’s ground wire must be connected to the system’s isolated ground bus.

1. Locate the electrical system’s applicable wiring diagram in Section 2.3. Reference this wiring diagram as necessary in Steps 2, 3, and 4.
2. Connect the SPD’s ground wire (green) to the system’s ground connection.
3. Connect the SPD’s neutral wire (white) to the system’s neutral connection (not required for 3-phase delta systems – NN201, NN400).
4. Connect the SPD’s phase A, B, and C wires (black) to the system’s corresponding phase A, B, and C connections according to applicable national, state, and local electrical codes.

2.3 SPD Wiring Diagrams

![Diagram of SPD Wiring](image)