

Installation and Operation Manual

APC Panel Mount
Type 1 SPD

PMP1XR-B





The APC PMP1XR-B Surge Protective Device (SPD) is designed to provide specification-grade performance at the service entrance, branch panels, or other critical locations. The APC SurgeArrest® PMP1XR-B comes with LED status monitoring in a Type 4X enclosure with 50 kA maximum surge current rating.

Compliant with UL1449 3rd Edition requirements dated September 29, 2009.

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Precautions

Precautions

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.
- This equipment must be effectively grounded per all applicable codes. Use an equipment-grounding conductor to connect this equipment to the power system ground.

Failure to follow these instructions will result in death or serious injury.

⚠ WARNING

INADEQUATE GROUNDING HAZARD

Do not use on ungrounded systems.

Failure to follow these instructions can result in death or serious injury.

⚠ CAUTION

LOSS OF SURGE SUPPRESSION

Turn off all power supplying the equipment and isolate the Surge Protective Device before Megger® or hi-potential testing.

Failure to follow these instructions can result in equipment damage.

Introduction

Introduction

Thank you for choosing the APC SurgeArrest® PMP1XR-B Surge Protective Device (SPD).

The APC Surge Protective Device (SPD) is a high-quality, high-energy surge attenuation system that has been designed to protect sensitive equipment from damaging transient voltage surges. Proper installation is imperative to maximize the surge suppressor's effectiveness and performance.

This manual is to be used as a guide for installing the device. Read and understand all information contained in this manual prior to installation. The outlined procedures are not intended to supersede local or national electrical codes. **Check all applicable electrical codes to assure compliance.**

This device must be installed by qualified electrical personnel. The installer should follow the steps detailed in this manual to ensure proper installation. **A copy of the installer's invoice, detailing the installation of this device, is required in order to take advantage of the unit's product warranty.**

The SurgeArrest® PMP1XR-B product lines specify a parallel SPD designed for service entrance and downstream panelboard applications. These units provide a maximum surge protection rating of 50 kA per phase rating.

All APC products are extensively tested according to industry standards as set by IEEE C62.41 and C62.45 for Categories A, B, and C. The connection method for these devices may require several feet of wire. Be aware that increased lead length adversely affects clamping voltages.

Save this manual! It includes instructions regarding the product warranty and replacement parts.

Testing

Any factory or on-site testing that exceeds the normal operating voltage, such as high-potential insulation testing or other tests where the suppression components will be subjected to voltages higher than their rated "turn on" voltage, must be run with the suppressor disconnected from the power source. For four-wire devices, the neutral connection at the SPD must also be disconnected prior to performing high-potential testing and then reconnected upon completion of the test.

Failure to disconnect this surge suppression device and its associated suppression components during elevated voltage testing will result in damage to the suppression components and/or other electronic components.

Specifications and Installation

Specifications

Table 1: Voltage Rating

Model	Voltage	Peak Surge Current (Rating per Phase)		Mounting	Protection
		L-N	L-G		
PMP1XR-B	120/240 V~	25 kA	25 kA	Side Nipple	Surge + Overload

Table 2: General Specifications ¹

System Voltage	120/240 V~
Maximum Continuous Operating Voltage (MCOV)	150 V~ L-N, 300 V~ L-L
Short Circuit Current Rating ²	25 kA
Nominal Discharge Current (I _n)	10 kA (L1-N, L1-G, L2-N, L2-G)
Voltage Protection Rating (VPR)	700 V (L1-N, L1-G, L2-N), 800 V (L2-G)
Enclosure Rating and Housing Dimensions	Type 4X (see Figure 4)
Product Weight	1.8 lbs (0.9 kg)
Connection Method	Parallel, 12 AWG Solid Wire
Thermal Fusing	Yes
Operating Temperature	-40°F to +160°F (-40°C to +70°C)
Operating Frequency	50/60 Hz
Diagnostics	Green Status LED per line
Product Standards	UL 1449—3rd Edition, CSA C22.2 No. 8-M1986, CSA C233.1-87 and CE
Product Rating	Type 1 Surge Protective Device (SPD)

¹ Contains no serviceable parts

² Suitable for use on a circuit capable of delivering not more than 25 kA rms symmetrical Amperes.

Installation

1. Turn off all power supplying this equipment before working on or inside equipment.
2. For mounting, see Figure 1.
3. Confirm SPD is rated for your system by comparing voltage measurements to the Line Voltage (L-L, L-N) on the product label.
4. Confirm the black wires are connected to line wires, the white wire to the neutral wire and green wire to ground (see Figure 2). For the single-phase, 120/240 3-wire application, connect one of the SPD black wires to L1 and the other black wire to L2. For the single phase, 120 2-wire application, connect both SPD black wires to the same line.
5. Twist conductors 1/2 turn or more for every 12 inches of length.
6. Keep conductor length as short as possible with no sharp bends.
7. Do not loop or coil wires.
8. Use on solidly grounded systems only.

Specifications and Installation

Figure 1: Mounting

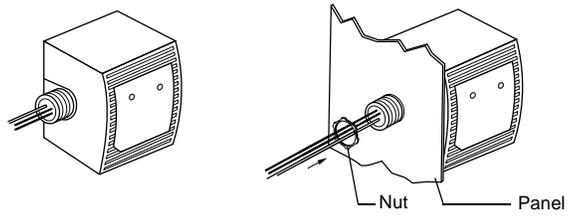


Figure 2: Wiring

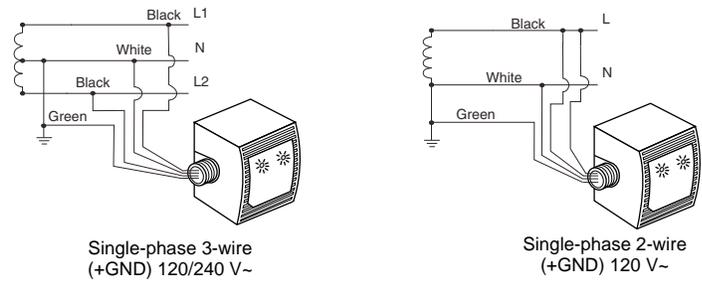
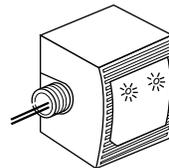
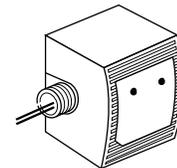


Figure 3: Diagnostic Operation



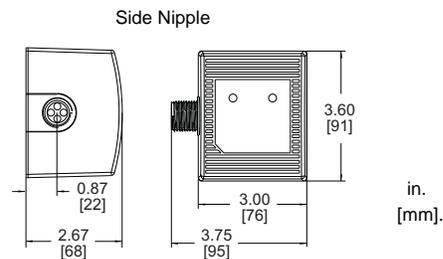
LED ON = OK



LED OFF = Loss of Surge
Suppression L1 and/or L2

- **LED ON** = Normal Operation
- **LED OFF** = Check circuit breakers and connections. Verify line voltage at point of connection; if all correct, replace SPD.

Figure 4: Dimensions



NOTE: Knockout trade size is 0.5 in. (13 mm). Actual hole size is 0.875 in. (22 mm).

in.
[mm].

APC Worldwide Customer Support

Customer support for this or other APC products is available at no charge in the following ways:

- Visit the APC website to access documents in the APC Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support**
Global support searching APC Knowledge Base and using e-support.
- Contact the APC Customer Support Center by telephone or e-mail.
 - Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

For information on how to obtain local customer support, contact the APC representative or other distributors from whom you purchased your APC product.

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8251-0127C
8291-0050

07/2010