

SM Series *Surge Protective Device (SPD)* *Installation, Operation and Maintenance Manual*

Introduction

Surge Safe™ SM Series Surge Protective Device is a high quality, high energy surge current diverting system designed to protect sensitive equipment from damaging transient voltage surges resulting from load switching, lightning strikes, and other sources.

Installer should perform the following instructions carefully to ensure a quality installation. Please read all instructions before starting the installation of this product. These instructions do not replace national or local electrical codes. Please check applicable electrical codes to ensure compliance.

GENERAL SPECIFICATION

Part Number	100-SM3W	300-SM4W	310-SM4W
Applied Voltage	120/240VAC	120/208VAC	277/480VAC
Phase	Single Phase	Three/Wye	Three/Wye
Wiring	2 Wire + Neutral	3 Wire + Neutral	3 Wire + Neutral
Operating Frequency	47-60Hz		
Nominal Discharge Current (In)	20kA		
Maximum Surge Current Capacity (8 x 20µs)	50kA		
Short Circuit Current Rating (SCCR) ¹	200kA		
Voltage Protection Rating (VPR)	100-SM3W, 300-SM4W @ L-N 700V, L-L 1200V 310-SM4W @ L-N 1200V, L-L 2000V		
Wire type	#12 Wire leads, 24" long		
Enclosure Size (in)	3.543 L x 3.543 W x 2.362 H		
Enclosure Rating	UL Type IP66, NEMA 4, 4X, 12, 13		
Conduit Hub	Weather Tight		
Operation Temperature	-40°C to +85°C		
UL Location Type	Type 1 Surge Protective Device (SPD)		

¹ Suitable for Use on a Circuit capable of delivery not more than 200kA rms symmetrical Amperes.

INSTALLATION

WARNING

- ONLY QUALIFIED PERSONNEL/ELECTRICIAN SHOULD INSTALL OR SERVICE SURGE SAFE™ DEVICES.
- ELECTRICAL SAFETY PRE-CAUTIONS MUST BE FOLLOWED WHEN INSTALLING OR SERVICING THIS EQUIPMENT.
- TO PREVENT RISK OF FIRE, ELECTRICAL SHOCK, OR DEATH; ALL POWER SOURCES TO THE UNIT MUST BE TURN OFF AND LOCK OUT BEFORE MAKING ELECTRICAL CONNECTIONS OR SERVICING.
- SURGE SAFE™ DEVICES ARE NOT TO BE USED WITH A HI-LEG DELTA VOLTAGE CONFIGURATION.
- THIS SPD MAY NOT SURVIVE SUSTAINED OVERVOLTAGES.

Caution – Ungrounded power systems are inherently unstable and can produce excessively high line to ground voltages during certain fault conditions. During these fault conditions any electrical equipment, including an SPD, may be subjected to voltages which exceed their designated ratings. This information is being provided to the user so that an informed decision can be made installing any electrical equipment on an ungrounded power system.

Verify the system voltage and wiring configuration is the same as the enclosed Surge Safe™ by checking it against the product label.

USE SUPPLY WIRE SUITABLE FOR 90°C
EMPLOYER DES FILS D'ALIMENTATION POUR 90°C

Wiring

#12 AWG wiring is provided with the unit. All wiring must comply with the National Electrical Code (NEC) and applicable local codes.

Mounting

1. Locate the SPD between the meter and the main service circuit breaker panel. The SPD should be mounted to an electrical box or enclosure.
2. For the best performance, try to mount the unit as close as possible to the service panel, in close proximity to the breaker that will feed the Surge Protective Device.
3. Avoid sharp bends and turns, which will degrade the performance of the SPD. The weight of the SPD should be supported to avoid necessary stress on the wiring connections.

Installing

1. Measure voltage at installation location between each Line and Neutral. System voltage must not exceed the specified maximum continuous RMS voltage listed on the SPD label.
2. TURN OFF POWER at the installation location (usually by removing services to meter or disconnection of service supply by utility).
3. Switch all distribution panel circuit breakers to OFF position to reduce possibly of accidental voltage on the circuit.
4. Connect the SPD White (Neutral) wire to the Neutral service conductor, a grounding electrode conductor, or the equipment grounding terminal in the service equipment.
 - For a Split-Phase system: Connect Line 1 to one of the SPD's Black wires and Line 2 to the remaining Black wire. **See Figure 1**
 - For a Three-Phase system: Connect Line 1 to one of the SPD's Black wires, connect Line 2 to the other Black wires, and Line 3 to the remaining Black wire. **See Figure 2.**
 - Keep all hook-up leads as short and straight as possible.
5. Restore power to the SPD and switch circuit breakers to "ON" position to reconnect load. Verify that the Green LED is illuminated.
 - If Green LED is not lit, remove power, re-check installation, repeat Step 2, and test again.
 - If Red LED is lit and the buzzer sounds, contact the manufacturer and replace the unit immediately.

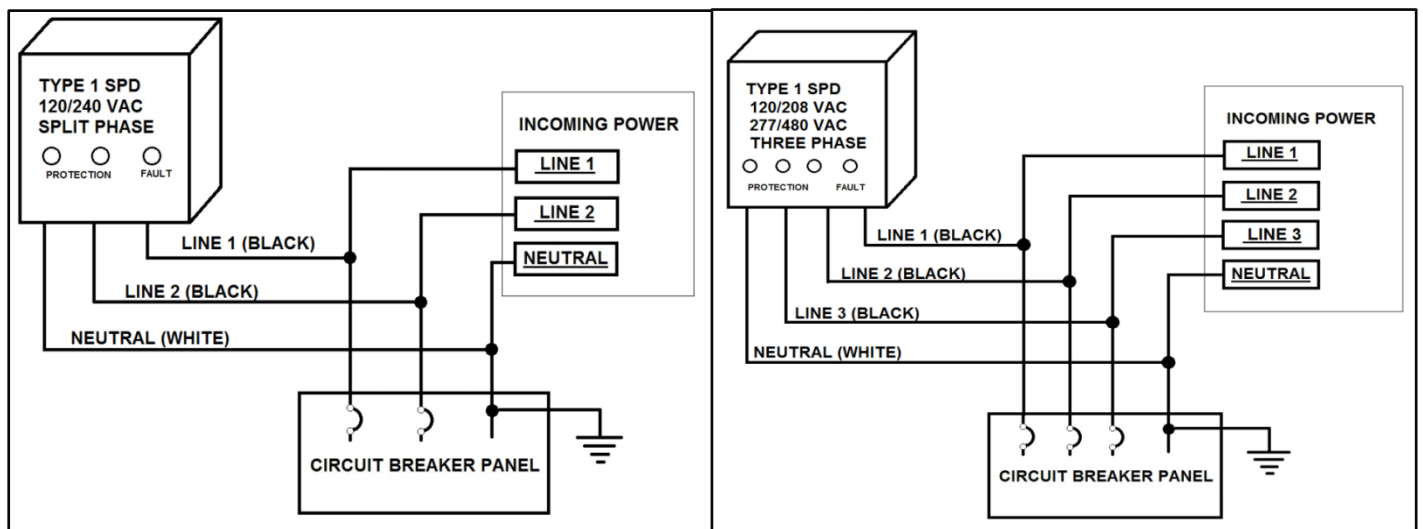


Figure 1 – Split-Phase System

Figure 2 – Three-Phase System

Environment

The unit is designed for indoor or outdoor use in ambient temperature of -40C to +85C with a relative humidity of 0% to 95%. The unit is provided in an industrial enclosure, which should not be installed in areas with excessive dust, corrosive vapors, flammable materials or explosive atmospheres.

WARRANTY

Global Power Products will repair or replace any Surge Protective Device that is defective in material or workmanship or is damaged by an electrical surge (including those caused by lightning) for a period of seven (7) years from the date of installation or seven (7) years and six (6) months from the date of manufacture, whichever comes first.

For any further inquiries or question, call Global Power Products at

1-800-886-3837

All damaged/returned products returned to the factory for repair/replacement must be accompanied by a Return Authorization number to the following address

**225 Arnold Road
Lawrenceville, GA 30044
Phone 1-800-886-3837
Fax 1-888-886-3837**

www.globalpowerproducts.com

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