Instruction Sheet 3A2204RevC

Effective February 2016
Supersedes February 2013

BUSSMANN SERIES

SurgePOD™ PRO UL® Type 1 1449 4th Edition surge protective devices

⚠ DANGER

Hazardous Voltage

Will cause severe injury or death

Working on or near energized circuits poses a serious risk of electrical shock. De-energize all circuits before installing or servicing this equipment and follow all prescribed safety procedures

QUALIFIED PERSON

For the purpose of this Instruction Leaflet, a qualified person:

(a) is familiar with the subject equipment and the hazards involved with their application, use, administration and maintenance.

(b) is trained and authorized to de-energize, clear, ground, and tag circuits and equipment in accordance with established safety practices.

(c) is trained in the proper care and use of personal protective equipment such as rubber gloves, hard hat, safety glasses or face shields, arc-flash clothing, etc., in accordance with established safety practices.

(d) is trained to render first aid.

(e) has received safety training to recognize and avoid the hazards involved.

(f) has the skills and knowledge pertaining to the construction and operation of this equipment and its installation.

Signal words

The signal words "DANGER," "WARNING," "CAUTION" and "NOTICE" (along with their assigned symbol) throughout this manual indicate the degree of hazard the user may encounter.

These symbols and words are defined as:

⚠ DANGER

DANGER: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE: Indicates a hazardous situation which, if not avoided, could result in property damage.

Safety concerns

This instruction sheet is not comprehensive. It is assumed the SurgePOD Heavy Duty user will follow established safety precautions for working in an electrical environment. For more information on safety precautions and procedures, consult the following websites:

- National Fire Protection Association (NFPA®) www.nfpa.org
- Underwriters Laboratories (UL) www.ul.com
- National Electrical Mfgrs. Association (NEMA®) www.nema.org
- American National Standards Association (ANSI®) www.ansi.org
- Institute of Electrical and Electronics Engineers (IEEE®) www.ieee.org

IMPORTANT

These procedures do not claim to cover all possible details or variations encountered with these SPDs, nor do they provide for all possible conditions that may be encountered. If further information is desired or needed to address any particular issue not covered in this document, contact your Bussmann product representative. The information in this document does not relieve the user from exercising good judgment, nor from using sound safety practices.

Note: Because Eaton has a policy of continuous product improvement, we reserve the right to change design specifications without notice. Should a conflict arise between the general information in this document and the contents of drawings or supplementary material, or both, the latter shall take precedence. For the latest version of this Instruction Leaflet, download "Instruction sheet" from the Bussmann Division website at: www.cooperbussmann.com/Surge.

⚠ 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 designed ratings.

This information is being provided to the user so that an informed decision can be made before installing any electrical equipment on an ungrounded power system.

The contents of this Instruction Leaflet are not part of, nor do they modify, any prior or existing agreement, commitment or relationship. The Cooper Bussmann terms and conditions of sale constitute the entire obligation of Cooper Bussmann. The warranty in the terms and conditions of sale is the sole warranty of Eaton. Any statements in this document do not create new warranties or modify any existing warranty.

Installation instructions

Important: Read these instructions carefully to assure proper installation and assembly. All wiring must comply with all state and local electric codes including the National Electric Code (NEC®) and Canadian Electric Code

Ensure all fasteners and connections are properly tightened to specified values. Installation in a manner inconsistent with these instructions will void the warranty. To ensure integrity of finished installation, do NOT install the SurgePOD HEAVY DUTY if it has been dropped or abused during the installation process.

The SurgePOD Heavy Duty SPD contains no user serviceable parts and cannot be repaired. Performing the following may compromise the unit's performance and will void the warranty.

Do NOT:

- Open or tamper with the unit
- Megger or hi-pot test the unit
- Install in a system that has a nominal voltage greater than the unit's rated nominal system voltage
- Installation with lead lengths less than six (6) inches will void the warranty

Specifications (for all units)		Values
Short-Circuit Current Rating (SCCR)		200 kA
Discharge current (8x20µs)	Nom. I_n	10 kA
	Max. I_{max}	40 kA
Response time (ns) t_A		<25 ns
Voltage frequency		50/60 Hz
Conductor gauge/length		10 AWG stranded copper/18 inches
Enclosure/flammability ratings		NEMA 4X* - UL 94-5VA
Degree of protection (installed state)		IP20 (finger-safe)
SPD install location		Indoor/outdoor
Circuit location		Lineside or loadside of service entrance overcurrent protective device
Standard		UL Listed 1449 4th Edition Type 1 SPD
Agency information		cULus, RoHS Compliant
Warranty		2 Years**
Operating temperature range		-25°C to +85°C
Maximum operating altitude		12,000FT

* NEMA 4X rating requires installation with customer supplied gasket between the unit and the enclosure wall.
** See Eaton Bussmann SPD Limited Warranty Statement (3A1502) for details at www.cooperbussmann.com/Surge.

Voltage ratings

Catalog number	Nominal system voltage	Max. Continuous Operating Voltage AC (MCOV) (V_c)
SPP40SP1120SN	120 V	150 V
SPP40SP2240PN	240 V	320 V
SPP40SP3240DLG	240 V	320 V
SPP40SP3480DLG	480 V	550 V
SPP40SP3208WYG	208 V	150 V
SPP40SP3480WYG	480 V	320 V

Powering Business Worldwide

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SurgePOD™ PRO UL Type 1 surge protective device

Installation Steps

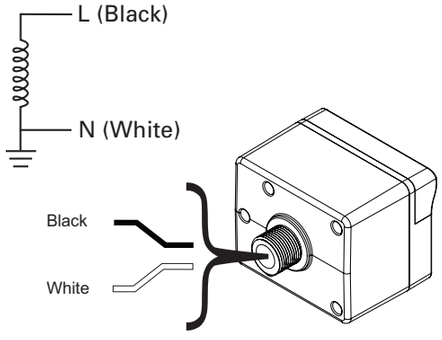
1. Inspect the unit to determine:
   - It has the correct nominal system and MCOV ratings and is the correct configuration for the installation (see unit label or table on page 1 for specifications)
   - It is not damaged. If the unit is not correct or is damaged, do not install it. Secure a proper replacement before proceeding with the installation.
2. Deenergize panel or equipment and follow established lockout / tagout procedures.
3. Select a location on the panel or equipment that allows the leads to reach their intended connection points and permits positioning the SurgePOD Heavy Duty so that the LED status indicator is visible. A location that permits the shortest lead lengths is preferred.
4. Remove a 3/4" knockout or make a 1-1/16" diameter hole where the SurgePOD Heavy Duty is to be mounted.
5. Remove the locknut from the unit and insert leads through the panel wall to the interior being careful not to damage the conductor insulation. Reinstall locknut and tighten to 20.3 lb-in (2.3N•m).

   NOTE: If installing outdoors, or an application requiring a NEMA 4X rating, seal the conduit nipple with an appropriate gasket / watertight fitting (not included) between the unit and the enclosure wall.
6. For optimum performance, trim the leads to the shortest length possible and avoid sharp bends. Note: lead lengths shorter than six inches will void the warranty. Make electrical connections appropriate for the application (see wiring diagrams on this page). If your electrical system is not represented in the circuit diagrams, contact our Application Engineering for assistance: FuseTech@eaton.com.
7. Energize panel or equipment and verify the LED status indicator is ON and Green (see easyID LED status indicators on this page).

Wire Connections

Make wire connections for the type of system being protected and torque terminals to the manufacturer's specified values. NOTE: Keep SPD leads as short as possible with minimum bending. Lead lengths as close to, but not less than six inches provide optimum performance.

Wiring connections

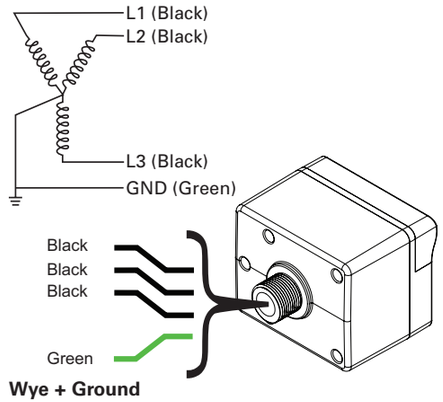


Single-phase

120V (L-N) 2 Wire

Must be installed within 10 feet (3 m) of a bonded neutral-ground connection per IEEE C62.41-1991.

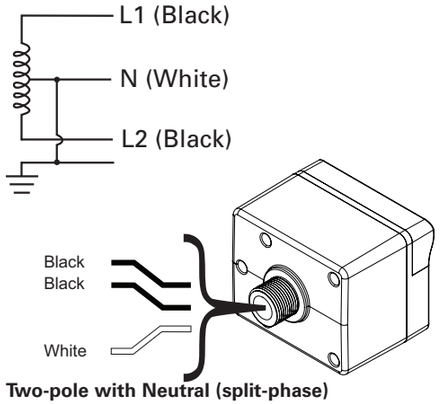
Catalog number: SPP40SP1120SN



Wye + Ground

208, 480V (L-L) 3 wire Wye + Ground

Catalog numbers: SPP40SP3208WYG, SPP40SP3480WYG

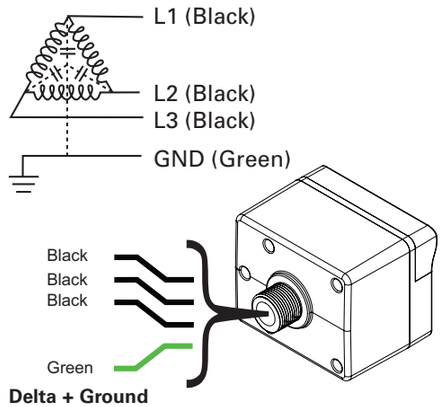


Two-pole with Neutral (split-phase)

120V (L-N) / 240V (L1-L2), single-phase (split) center tap

For installations at or less than 10 feet (3m) from the transformer.

Catalog number: SPP40SP2240PN

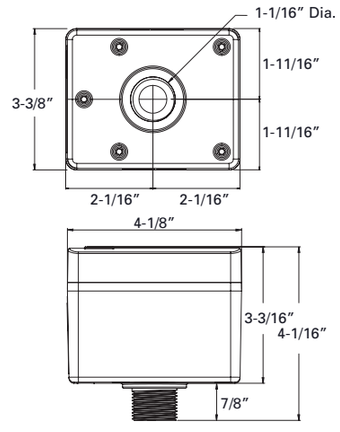


Delta + Ground

240, 480V (L-L) 3 wire Delta + Ground

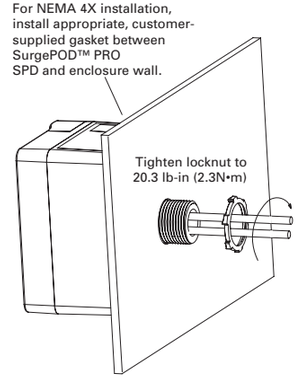
Catalog numbers: SPP40SP3240DLG, SPP40SP3480DLG

Dimensions — in



Mounting

SurgePOD PRO is a panel mount device. It may also be mounted using a customer supplied bracket or directly onto a female threaded conduit fitting.



easyID LED status indicator

The easyID LED status indicator will illuminate when the unit is properly installed and the system or equipment being protected is energized. The following LED color/status indicates:

GREEN LED = Good

- The circuit is energized and protected.

RED LED = Replace

- The circuit is energized and unprotected.
- The unit needs replacing.

LED is Out / Unlit:

- The circuit is most likely deenergized
- The unit's leads are disconnected
- The unit is damaged

Authorized personnel should follow all prescribed lockout/tagout and safety procedures in troubleshooting the cause for the above conditions. Opening SurgePOD PRO enclosure will void UL listing and warranty.

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