


Surge Protection Made Simple™



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:

- is familiar with the subject equipment and the hazards involved with their application, use, administration and maintenance.
- is trained and authorized to de-energize, clear, ground, and tag circuits and equipment in accordance with established safety practices.
- 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.
- is trained to render first aid.
- has received safety training to recognize and avoid the hazards involved.
- 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: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

IMPORTANT

These procedures do not claim to cover all possible details or variations encountered with the SurgePOD PRO, 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 Cooper Bussmann representative. The information in this document does not relieve the user from exercising good judgment, nor from using sound safety practices.

Note: Because Cooper Bussmann 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 Cooper Bussmann website at: www.cooperbussmann.com/Surge.

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 Cooper Bussmann. Any statements in this document do not create new warranties or modify any existing warranty.



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



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



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



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.

SAFETY CONCERNS

This instruction sheet is not comprehensive. It is assumed the SurgePOD PRO 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 Mfgs. Association (NEMA) www.nema.org
- American National Standards Association (ANSI) www.ansi.org
- Institute of Electrical and Electronics Engineers (IEEE) www.ieee.org

Specifications (for all units)	Values
Short-Circuit Current Rating (SCCR)	200kA
Nominal Discharge Current (8x20µs) I _N	10kA
Max. Discharge Current (8x20µs) I _{max}	40kA
Response Time (ns) t _A	<25 ns
Voltage Frequency	50/60Hz
Conductor Length / Guage	18 Inches of Stranded 10AWG Tinned Copper
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 1449 3rd Edition Type 1 Listed SPD
Agency Information	cULus, RoHS Compliant
Product Warranty	2 Years**
Operating Temperature	-40°C to +65°C
Maximum Operating Altitude	12000FT

* NEMA 4X rating requires installation with customer supplied gasket between the unit and the enclosure wall.

** See Cooper Bussmann SPD Limited Warranty Statement (3A1502) for details at www.cooperbussmann.com/Surge.

INSTALLATION INSTRUCTIONS

IMPORTANT: Read these instructions carefully to assure proper installation and assembly. Ensure all fasteners and connections are properly tightened to specified values. Installation in a manner inconsistent with these instructions will void the warranty.

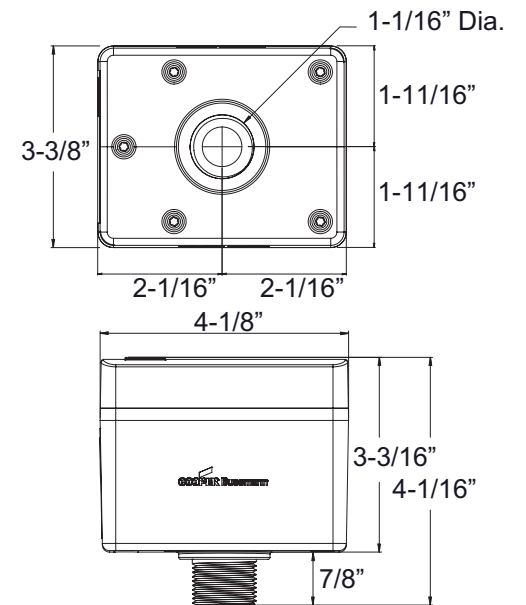
To ensure integrity of finished installation, do NOT install the SurgePOD PRO if it has been dropped or abused during the installation process.

The SurgePOD PRO 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

UL Type 1 SurgePOD™ PRO SPD

Dimensions - in



Voltage Ratings		
Catalog Number	Nominal System Voltage	Max. Continuous Operating AC Voltage (MCOV) (V _C)
SPP40SP1120SN	120V	150V
SPP40SP2240PN	240V	320V
SPP40SP3240DLG	240V	320V
SPP40SP3480DLG	480V	550V
SPP40SP3208WYG	208V	150V
SPP40SP3480WYG	480V	320V

Installation Steps

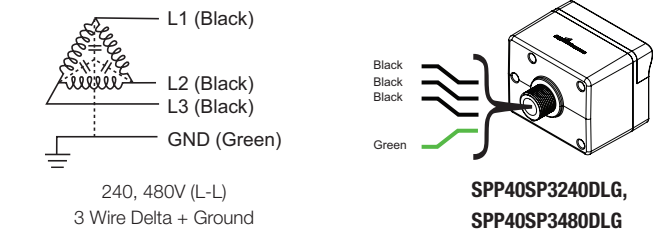
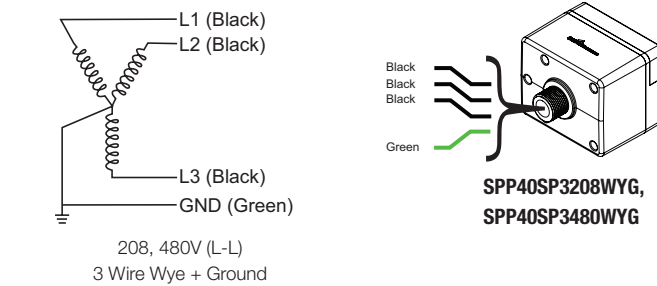
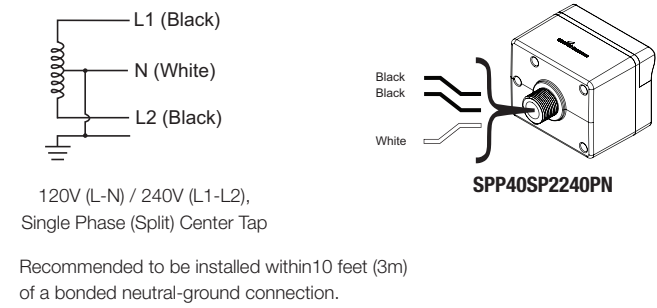
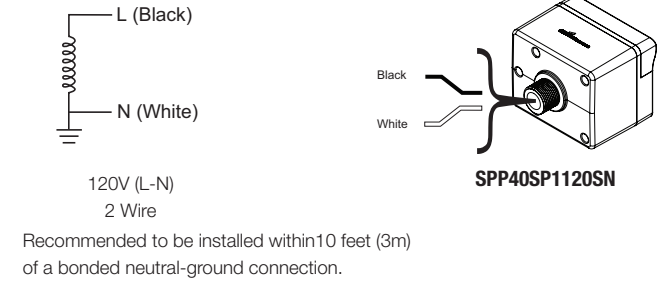
1. Inspect the unit to determine:
 - It has the correct nominal system and MCOV ratings and is the correct configuration for the installation (see unit label or table on page 1 for specifications)
 - It is not damaged. If the unit is not correct or is damaged, do not install it. Secure a proper replacement 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 PRO so that the LED status indicator is visible. A location that permits the shortest lead lengths is preferred.
4. Remove a ¼” knockout or make a 1-1⁄16” diameter hole where the SurgePOD PRO 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 Cooper Bussmann Application Engineering for assistance. E-mail FuseTech@cooperindustries.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

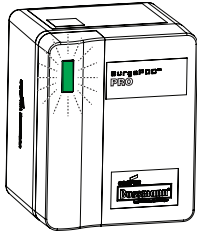
Make wire connections for the type of system being protected and torque terminals to the manufacturer’s specified values. NOTE: Keep SPD leads as short as possible with minimum bending. Lead lengths as close to, but not less than six inches provide optimum performance.

Legend: Black = Line Connection, White = Neutral Connection, Green = Ground Connection



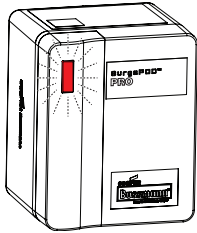
easyID™ LED Status Indicator

The easyID™LED status indicator will always 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

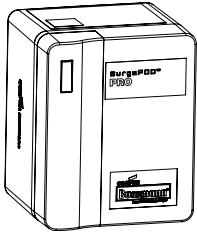
The circuit is energized and protected.



RED LED = Bad

The circuit is energized and unprotected.

The unit needs replacing.

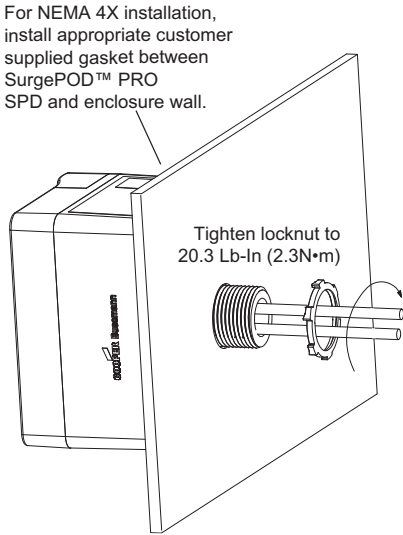


LED is Out / Unlit:

- 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.

Mounting



Warranty

See document 3A1502 at www.cooperbussmann.com/surge or details of limited warranty.



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www.CooperBussmann.com