

# SurgePOD™ HEAVY DUTY UL Listed Type 1 surge protective devices

RoHS



## Features

- These SPDs are easily selected and installed on the loadside or lineside of the service entrance overcurrent protective device
- Voltage specific models precisely match and protect electrical systems and equipment better than "one-size-fits-all" SPDs
- Patented SurgePOD module technology eliminates the need for additional fusing
- Compact UV resistant NEMA 4X enclosure for indoor or outdoor installation
- *easyID*™ LED status indicator provides surge protection status at a glance
- Five year warranty

## Specifications:

### Ratings

- See ratings and specifications tables on page 2

### Agency information

- UL Listed Type 1 1449 4<sup>th</sup> Edition
- CSA Type 2
- RoHS compliant

## Catalog symbols:

- SPH\_

## Description:

Bussmann™ series SurgePOD™ HEAVY DUTY Type 1 surge protective devices are suitable for installation on both the loadside or lineside of the service entrance overcurrent protective device.

SurgePOD HEAVY DUTY SPDs are available in popular voltage and system specific versions to match common commercial and industrial electrical system and equipment requirements. They deliver superior surge protection using MOV thermal disconnect technology that eliminates the need for additional overcurrent protection.

Parallel connection to the electrical system permits the SurgePOD HEAVY DUTY SPD to be installed on any ampacity panel.

Catalog numbers	Volts AC	System type
SPH50SP1120SN	120	1-Ø, 2 wire
SPH50SP1240SN	240	
SPH50SP1347SN	347	
SPH50SP2120SNG	120	1-Ø, 2 wire + G
SPH50SP2240SNG	240	
SPH50SP2347SNG	347	
SPH50SP2240PN	240	Split-Ø, 3 wire
SPH50SP2480PN	480	
SPH50SP3240PNG	240	Split-Ø, 3 wire + G
SPH50SP3480PNG	480	
SPH50SP3240DLG	240	3-Ø Delta 3 wire + G
SPH50SP3480DLG	480	
SPH50SP4240HLG	240	3-Ø Highleg Delta 4 wire + G
SPH50SP4480HLG	480	
SPH50SP3208WYG	208	3-Ø Wye 3 wire + G
SPH50SP3480WYG	480	
SPH50SP3600WYG	600*	
SPH50SP4208WYNG	208	3-Ø Wye 4 wire + G
SPH50SP4480WYNG	480	
SPH50SP4600WYNG	600*	

\* 600V Wye versions not CSA Certified.

**EATON**
*Powering Business Worldwide*

## SurgePOD PRO ratings and specifications:

### Voltages and system types

Catalog number	Nominal system voltage	Max. Continuous Operating Voltage AC (MCOV) (VC)	System type	Connection points
SPH50SP1120SN	120V	150V	Single-phase 2 wire	2
SPH50SP1240SN	240V	320V	Single-phase 2 wire	2
SPH50SP1347SN	347V	420V	Single-phase 2 wire	2
SPH50SP2120SNG	120V	150V	Single-phase 2 wire + G	3
SPH50SP2240SNG	240V	320V	Single-phase 2 wire + G	3
SPH50SP2347SNG	347V	420V	Single-phase 2 wire + G	3
SPH50SP2240PN	120/240V	150V	Split-phase 3 wire	3
SPH50SP2480PN	240/480V	320V	Split-phase 3 wire	3
SPH50SP3240PNG	120/240V	150V	Split-phase 3 wire + G	4
SPH50SP3480PNG	240/480V	320V	Split-phase 3 wire + G	4
SPH50SP3240DLG	240V	320V	Three-phase Delta 3 wire + G	4
SPH50SP3480DLG	480V	550V	Three-phase Delta 3 wire + G	4
SPH50SP4240HLG	120/240V	150/320V	Three-phase Highleg Delta 4 wire + G	5
SPH50SP4480HLG	240/480V	320/550V	Three-phase Highleg Delta 4 wire + G	5
SPH50SP3208WYG	208V	150V	Three-phase Wye 3 wire + G	4
SPH50SP3480WYG	480V	320V	Three-phase Wye 3 wire + G	4
SPH50SP3600WYG†	600V	420V	Three-phase Wye 3 wire + G	4
SPH50SP4208WYNG	208Y/120V	150V	Three-phase Wye 4 wire + G	5
SPH50SP4480WYNG	480Y/277V	320V	Three-phase Wye 4 wire + G	5
SPH50SP4600WYNG†	600Y/347V	420V	Three-phase Wye 4 wire + G	5

† 600V Wye versions not CSA Certified.

### Specifications

For all SurgePOD PRO units		Values
Short Circuit Current Rating (SCCR)		200kA
Discharge current (8x20μs)	Nominal $I_n$	20kA
	Maximum $I_{max}$	50kA
Response time (ns) $t_A$		<25ns
Frequency		50/60Hz
Operating state/fault indication		Bi-color LED - green (good) / red (replace)
Conductor length/gauge		18 inches, 10AWG stranded tinned copper
Mounting		Chase nipple / bracket*
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 Type 1 1449 4 <sup>th</sup> Edition
Agency information		cULus, CSA**RoHS compliant
Warranty		5 Years***
Operating temperature range		-40°C to +65°C
Maximum operating altitude		12,000FT

\* Customer-supplied bracket.

\*\* 600V Wye versions not CSA Certified

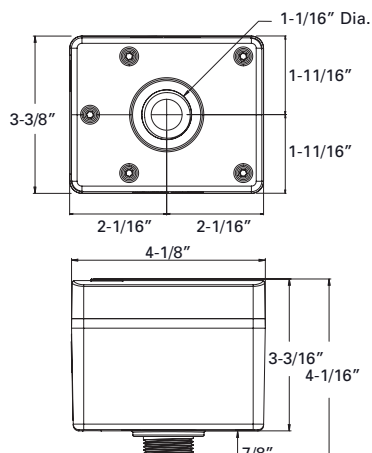
\*\*\* See Eaton Bussmann SPD Limited Warranty Statement (3A1502) for details at [www.cooperbussmann.com/Surge](http://www.cooperbussmann.com/Surge).

**Voltage Protection Ratings (VPRs)**

Catalog number	Nominal system voltage	MCOV (V <sub>c</sub> )	Voltage Protection Ratings (VPRs)			
			L-N	L-L	L-G	N-G
SPH50SP1120SN	120V	150V	700	—	—	—
SPH50SP1240SN	240V	320V	1200	—	—	—
SPH50SP1347SN	347V	420V	1500	—	—	—
SPH50SP2120SNG	120V	150V	700	—	1200	700
SPH50SP2240SNG	240V	320V	1200	—	2500	1200
SPH50SP2347SNG	347V	420V	1500	—	2500	1500
SPH50SP2240PN	120V/240V	150V	700	1200	—	—
SPH50SP2480PN	240V/480V	320V	1200	2500	—	—
SPH50SP3240PNG	120V/240V	150V	700	1200	1200	700
SPH50SP3480PNG	240V/480V	320V	1200	2500	2500	1200
SPH50SP3240DLG	240V	320V	—	2500	1200	—
SPH50SP3480DLG	480V	550V	—	3000	1800	—
SPH50SP4240HLG	120/240V	150V/320V	700/1200	1200/2500	1200/2500	700/1200
SPH50SP4480HLG	240/480V	320V/550V	1200/1800	2500/3000	2500/3000	1200/1800
SPH50SP3208WYG	208V	150V	—	1200	700	—
SPH50SP3480WYG	480V	320V	—	2500	1200	—
SPH50SP3600WYG†	600V	420V	—	2500	1500	—
SPH50SP4208WYNG	208Y/120V	150V	700	1200	1200	700
SPH50SP4480WYNG	480Y/277V	320V	1200	2500	2500	1200
SPH50SP4600WYNG†	600Y/347V	420V	1500	2500	2500	1500

† 600V Wye versions not CSA Certified.

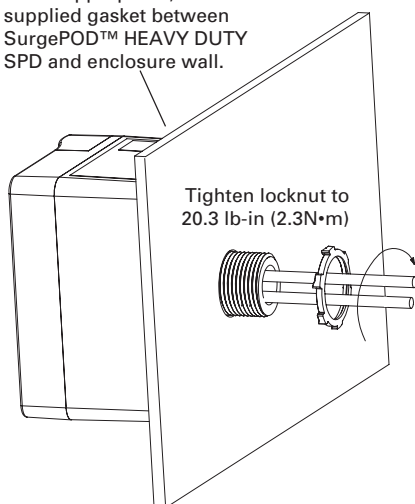
## Dimensions — in



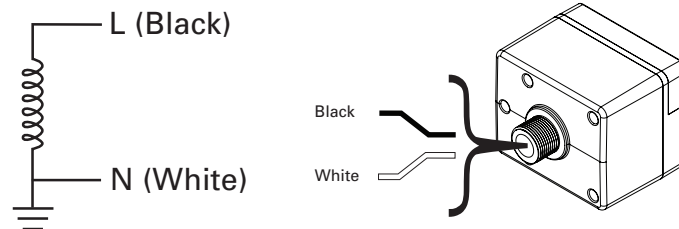
## Mounting

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.

For NEMA 4X installation, install appropriate, customer-supplied gasket between SurgePOD™ HEAVY DUTY SPD and enclosure wall.



## Wiring connections



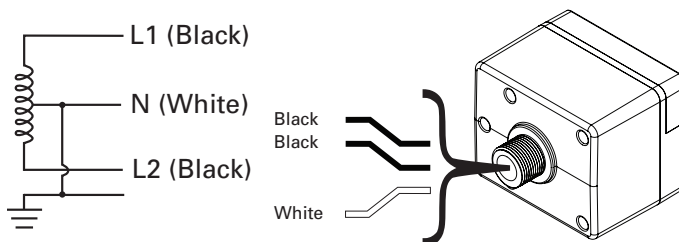
### Single-phase

120, 240, 347V (L-N)

2 wire

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

Catalog numbers: SPH50SP1120SN, SPH50SP1240SN, SPH50SP1347SN



### Two-pole with Neutral

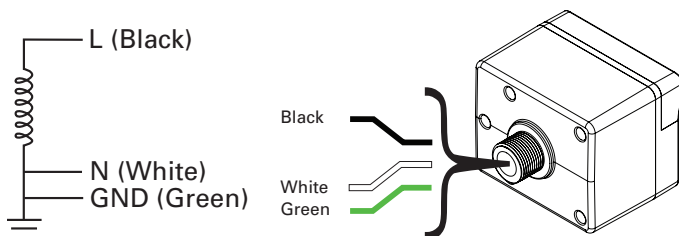
120V (L-N) / 240V (L1-L2),

240V (L-N) / 480V (L1-L2)

Single-phase (split) center tap

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

Catalog numbers: SPH50SP2240PN, SPH50SP2480PN



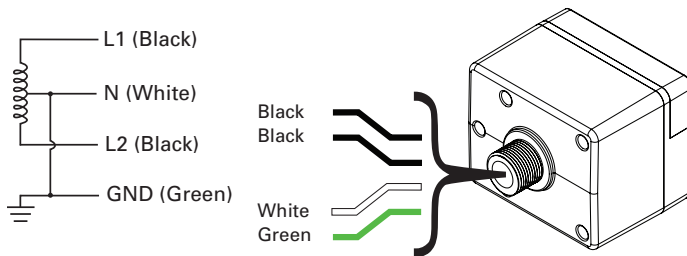
### Single-phase + Ground

120, 240, 347V (L-N)

2 wire + Ground

For installation when located greater than 10 feet (3m) of a bonded neutral-ground connection.

Catalog numbers: SPH50SP2120SNG, SPH50SP2240SNG, SPH50SP2347SNG

**Wiring connections continued****Two-pole with Neutral + Ground**

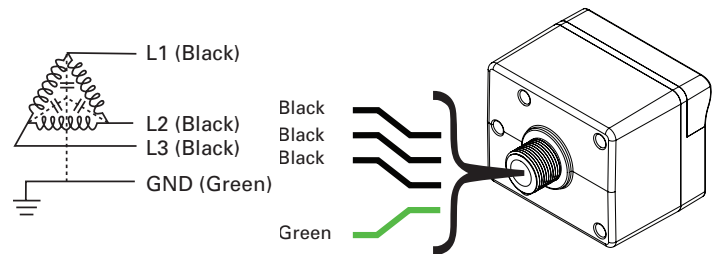
120V (L-N) / 240V (L1-L2),

240V (L-N) / 480V (L1-L2)

Single-phase (split) center tap + Ground

For installation when located greater than 10 feet (3m) of a bonded neutral-ground connection.

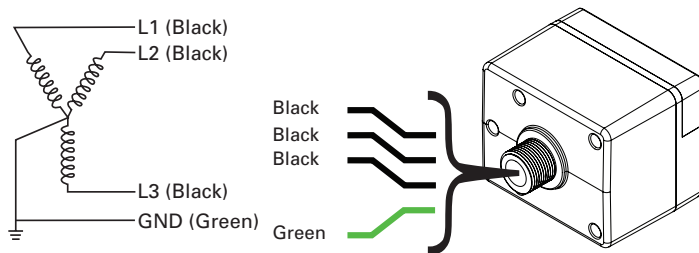
Catalog numbers: SPH50SP3240PNG, SPH50SP3480PNG

**Delta + Ground**

240, 480V (L-L)

3 wire Delta + Ground

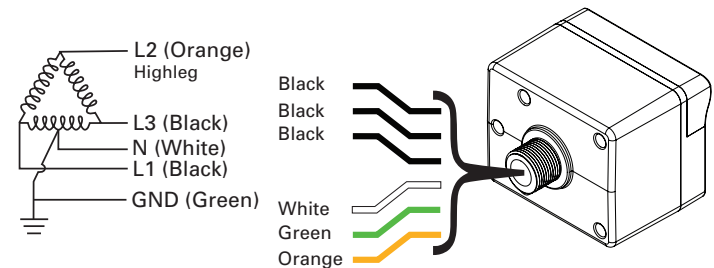
Catalog numbers: SPH50SP3240DLG, SPH50SP3480DLG

**Wye + Ground**

208, 480, 600V (L-L)

3 wire Wye + Ground

Catalog numbers: SPH50SP3208WYG, SPH50SP3480WYG, SPH50SP3600WYG

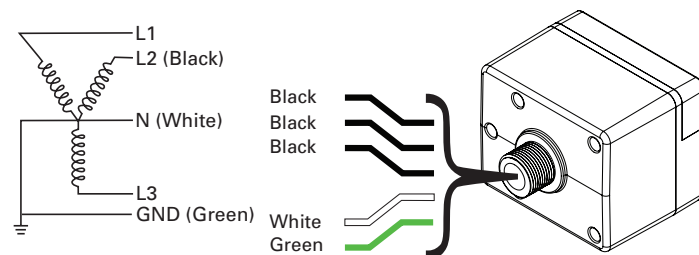
**Highleg Delta**

120V (L1 / L3-N) / 240V (L-L),

240V (L1 / L3-N) / 480V (L-L)

4 wire Highleg Delta + Ground

Catalog numbers: SPH50SP4240HLG, SPH50SP4480HLG

**Wye with Neutral + Ground**

120V (L-N) / 208V (L-L),

127V (L-N) / 220V (L-L),

277V (L-N) / 480V (L-L),

347V (L-N) / 600V (L-L)

4 wire Wye + Ground

Catalog numbers: SPH50SP4208WYNG, SPH50SP4480WYNG, SPH50SP4600WYNG

## 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.

The only controlled copy of this data sheet is the electronic read-only version located on the Eaton network drive. All other copies of this document are by definition uncontrolled. This bulletin is intended to clearly present comprehensive product data and provide technical information that will help the end user with design applications. Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin. Once a product has been selected, it should be tested by the user in all possible applications.

**Eaton**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
Eaton.com

Bussmann Division  
114 Old State Road  
Ellisville, MO 63021  
United States  
Eaton.com/bussmannseries

© 2016 Eaton  
All Rights Reserved  
Printed in USA  
Publication No. 2163 — BU-SB13145  
February 2016

Eaton, Bussmann, SurgePOD and *easyID* are valuable trademarks of Eaton in the U.S. and other countries. You are not permitted to use the Eaton trademarks without prior written consent of Eaton.  
CSA  
NEMA  
UL

For Eaton's Bussmann series  
product information,  
call **1-855-287-7626** or visit:  
**Eaton.com/bussmannseries**