

# PV HEAVY DUTY three module photovoltaic surge protective devices for 600, 1000 and 1200Vdc systems

**RoHS**


Remote contact signaling available

*easyID*™ local visual status indication

## Standard local visual indication

The green and red visual indicator flags show the module protective status (green = good, red = replace).

## Optional remote contact signaling

The three-pole terminal remote contact signaling option has a floating changeover contact for use as a break or make contact, according to circuit concept.

## Specifications:

### System volts

- 600Vdc
- 1000Vdc
- 1200Vdc

### Systems types

- Two energized poles (all voltages)
- One energized pole (600 and 1000Vdc)

### Agency information

- UL Recognized
- CE
- RoHS compliant

### Mounting

- 35mm DIN-Rail

### Warranty

- Five years

## Catalog symbols:

- BSPH3\_YPV
- BSPH3\_YPVR

## Description:

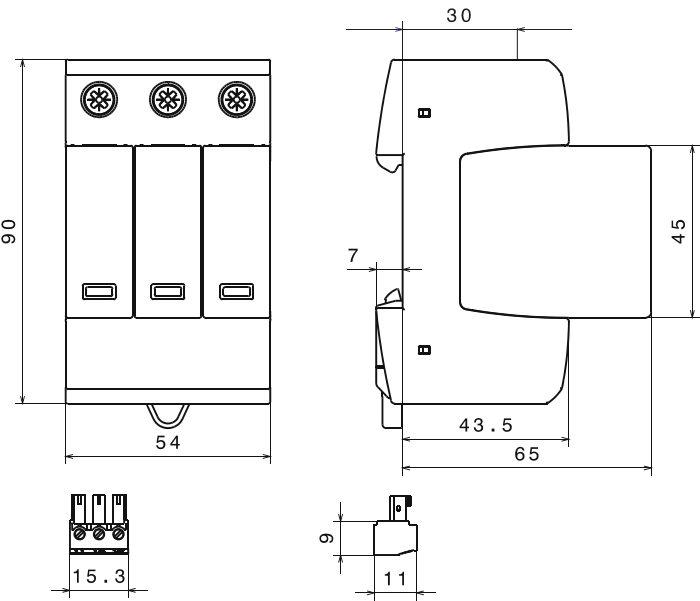
Eaton Bussmann™ series three-module photovoltaic SPDs have a three-step DC switching device and feature *easyID*™ local visual indication and optional remote contact signaling.

Suitable for all PV systems in accordance with UL 1449 4<sup>th</sup> Edition and IEC 60364-7-712, these prewired solutions consist of a base and locking modules that are mechanically keyed to prevent the use of an incorrect replacement module.

Their short-circuit interrupting technology has a combined disconnection and short-circuiting (shunting) device for safe electrical isolation to prevent fire damage due to DC arcs along with an integrated DC fuse that allows safe module replacement without arc formation.

In case of insulation faults in the generator circuit, a reliable and tested fault-resistant Y circuit prevents damage to the surge protective devices.

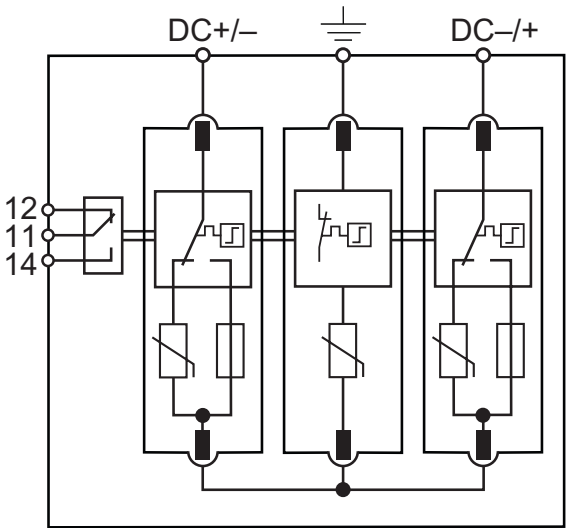
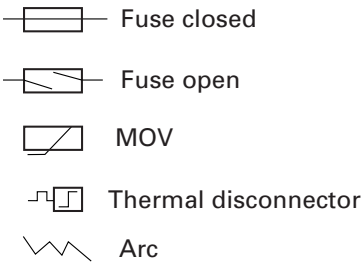
Dimensions - mm:



Shown with optional remote contact signaling.

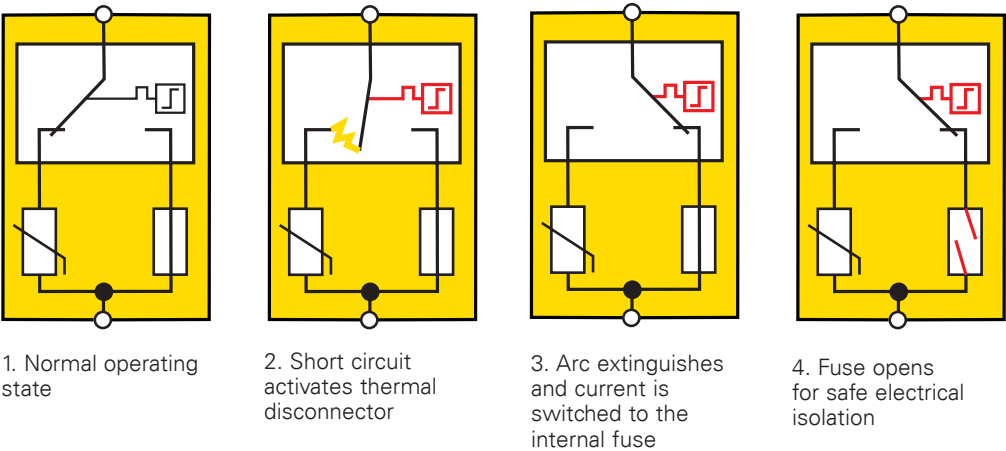
Module circuit diagrams:

Shown with optional remote contact signaling



BSPH3600YPV(R)  
BSPH31000YPV(R)  
BSPH31200YPV(R)

Short-circuit interrupting technology



**Ordering information:**

Nominal system voltage		600Vdc	1000Vdc	1200Vdc
Catalog numbers (base + modules)	W/O remote signaling	BSPH3600YPV	BSPH31000YPV	BSPH31200YPV
	W/ remote signaling	BSPH3600YPVR	BSPH31000YPVR	BSPH31200YPVR
Replacement modules	Outer (2 modules installed)	BPH300YPV	BPH500YPV	BPH600YPV
	Center (1 module installed)	BPM300YPV	BPM500YPV	BPM600YPV

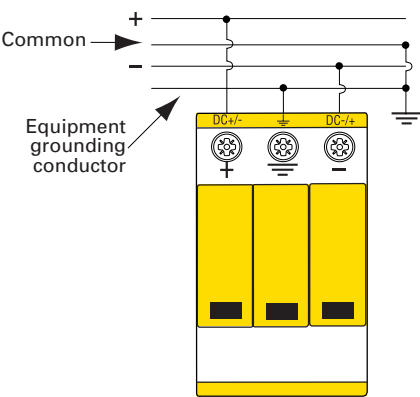
Specifications				
Nominal PV system voltage		600V	1000V	1200V
MCOV [UCPV]		700Vdc	1170Vdc	1200Vdc
Max system discharge current (8/20μs) [ $I_{max}$ ]		40kA	40kA	30kA
Voltage protection level	[ $U_p$ ]	≤2.5kV	≤4.0kV	≤4.5kV
	at 5kA [ $U_p$ ]	≤2.0kV	≤3.5kV	≤4.0kV
Integrated fuse breaking capacity/interrupting rating		30kA / 1000Vdc	30kA / 1000Vdc	30kA / 1200Vdc
Technology		Short-circuit interruption (SCI) overcurrent protection		
Operating temperature range [T <sub>U</sub> ]		-40°C to +80°C		
Nominal discharge current (8/20 μs) [(DC+/DC-) → PE] [ $I_n$ ]		12.5kA		
Response time [ $t_A$ ]		≤25ns		
Operating state/fault indication		Green (good) / Red (replace)		
Cross-sectional area:	Min	60/75°C 1.5mm <sup>2</sup> / 14AWG solid/flexible		
	Max	60/75°C 35mm <sup>2</sup> / 2AWG stranded / 25mm <sup>2</sup> / 4AWG flexible		
Mounting		35mm DIN-Rail per EN 60715		
Enclosure material		UL 94V0 Thermoplastic		
Degree of protection		IP20		
Capacity		3 Modules, DIN 43880		
Agency information:	UL	UL 1449 4 <sup>th</sup> Edition (Type 2)*		
	IEC	IEC 61643-11 Type 2, IEC 61643-1 Class II		
Product warranty		Five Years**		

Remote contact signaling				
Contact signaling type		Changeover contact		
Switching capacity volts/amps	AC	250V / 0.1A		
	DC	250V / 0.1A; 125V / 0.2A; 75V / 0.5A		
Conductor ratings and cross-sectional area		60/75°C Max. 1.5mm <sup>2</sup> / 14AWG solid/flexible		
Ordering information		Order from catalog numbers above		

\* Does not apply to 1200Vdc.

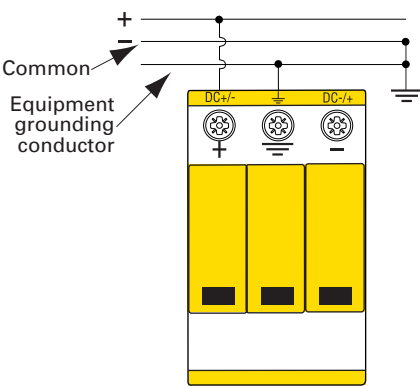
\*\* See Eaton Bussmann SPD Limited Warranty Statement (3A1502) for details at [www.cooperbussmann.com/surge](http://www.cooperbussmann.com/surge).

Typical application schematics:



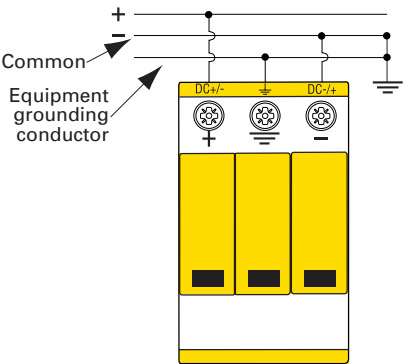
Application A

Two energized poles/modes 600, 1000 and 1200Vdc systems



Application C

One energized pole/mode 600Vdc and 1000Vdc\* systems only  
(Max. system discharge current (8/20μs) [I<sub>max</sub>] 25kA)



Application B

One energized pole/mode 600Vdc and 1000Vdc\* systems only

\* BSPH31000YPV(R) 1000Vdc energized pole/mode requires the following:

1. Use of a suitable electrical insulator to keep a 10mm minimum safety distance from the SPD and other grounded parts in the housing.
2. No metal covers are in the area of the module release buttons as shown.

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. 2055 — BU-MC16XXX  
January 2016

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

Follow us on social media to get the latest product and support information.

