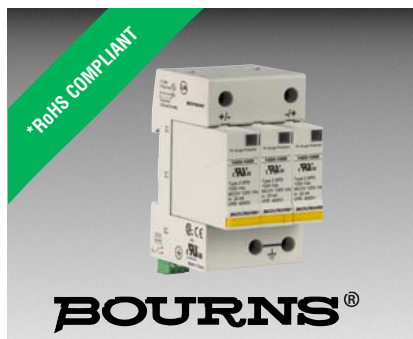




## Features

- Hybrid MOV/GDT design
- No leakage over life
- DIN Rail mountable
- 40 kA maximum impulse current rating
- Minimal footprint within DC power system
- Uni-block design with replaceable modules
- Visual fault indicator

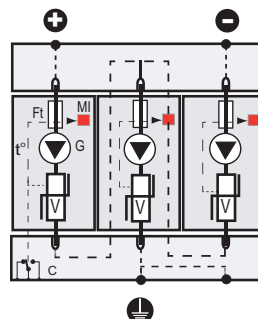
- Thermal disconnect
- Standards compliance: CE  
- RoHS compliant\*

## 1420 Series DC Power SPD for Photovoltaic Applications

### General Information

The Bourns® Model 1420 Series is a DC power Surge Protective Device (SPD) designed to protect power systems operating up to 1200 Vdc. The unique hybrid MOV/GDT design provides an enhanced level of protection against the effects of direct or indirect lightning.

### Electrical Diagram



V : High energy MOV  
G : Heavy duty gas discharge tube  
Ft : Thermal fuse  
C : Remote signaling contact  
t° : Thermal disconnection system

### Electrical Characteristics

| Characteristic                                                      | Model No.<br>1420-PV-1000 |
|---------------------------------------------------------------------|---------------------------|
| Network Voltage (Un) dc                                             | 1000 Vdc                  |
| Protection Mode                                                     | MC/MD <sup>1</sup>        |
| Max. Operating Voltage (Uc) dc                                      | 1200 Vdc                  |
| IEC/UL Nominal Discharge Current (In)<br>15 x 8/20 $\mu$ s impulses | 20 kA                     |
| Max. Discharge Current (Iimp)<br>10/350 $\mu$ s max.                | --                        |
| Max. Lightning Current by Pole (Imax)                               | 40 kA                     |
| Protection Level @ In (Up)                                          | < 3.6 V                   |
| Residual Voltage at 5 kA                                            | < 2.6 kV                  |
| Operating Current (Ic)<br>Leakage Current at Uc                     | None                      |
| Follow Current (If)                                                 | None                      |

Note 1: MC = Common Mode (+/PE or -/PE) and MC/MD = Common Mode and Differential Mode ( $\pm$ ).

### General Characteristics

| Characteristic          | Model No.<br>1420-PV-1000              |
|-------------------------|----------------------------------------|
| Thermal Disconnect      | Internal                               |
| Dimensions              | See Product Dimensions                 |
| Connection              | By Screw Terminal: #4 AWG max.         |
| Disconnection Indicator | 1 Mechanical Indicator                 |
| Mounting                | DIN Rail, 35 mm Symmetrical            |
| Remote Signaling        | 250 V / 0.5 A (AC)<br>125 V / 3 A (DC) |
| Enclosure Material      | Thermoplastic UL 94V0                  |

### Environmental Characteristics

| Characteristic        | Model No.<br>1420-PV-1000 |
|-----------------------|---------------------------|
| Operating Temperature | -50 °C to +85 °C          |
| Environmental Rating  | IP 20                     |

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.  
Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
Users should verify actual device performance in their specific applications.

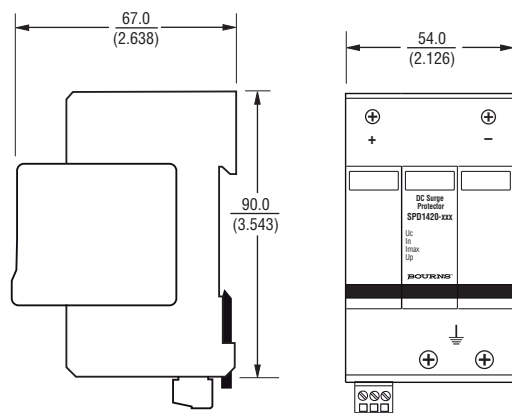
## Applications

- DC power applications up to 1200 Vdc

## 1420 Series DC Power SPD for Photovoltaic Applications

**BOURNS®**

### Product Dimensions



DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

### Standards Compliance

IEC61643-1 - International .....Low Voltage SPD - Test Class II  
NF EN 61643-11 - France .....Low Voltage SPD - Test Class II  
UL1449 3rd Edition - USA ..... Type 4, Type 2 Location  
CSA C22.2 No. 8-M1986 ..... Class 9091 32, Class 9091 92  
DIN EN61643-11 - Germany ..... Surge Arrestor Type 2

### How To Order

Series ..... **1420 - PV - 1000**  
Application Code .....  
PV = Photovoltaic  
Network Voltage .....  
1000 = 1000 Vdc

**BOURNS®**

**Asia-Pacific:** Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

**Europe:** Tel: +41-41 768 5555 • Fax: +41-41 768 5510

**The Americas:** Tel: +1-951 781-5500 • Fax: +1-951 781-5700

**www.bourns.com**

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