

NEW PRODUCT BRIEF



Bourns® 1420A Series DC Power SPDs for Photovoltaic Applications

INTRODUCTION

The Bourns® Model 1420A Series is a DC power Surge Protective Device (SPD). It is designed for photovoltaic system DC-side protection against damage from surges caused by lightning and other electrical sources, up to rated limits, while operating up to 1500 VDC. This new SPD has a unique high-energy MOV technology design that features an Advanced Thermal Disconnecter (TD+) to deliver an enhanced level of protection against the effects of direct or indirect lightning threats. These space-saving DIN Rail mountable devices have a maximum lightning surge current rating of 50 kA (8/20 μ s) per pole. This series is RoHS compliant, UL recognized and meets UL 1449 requirements.

ELECTRICAL CHARACTERISTICS

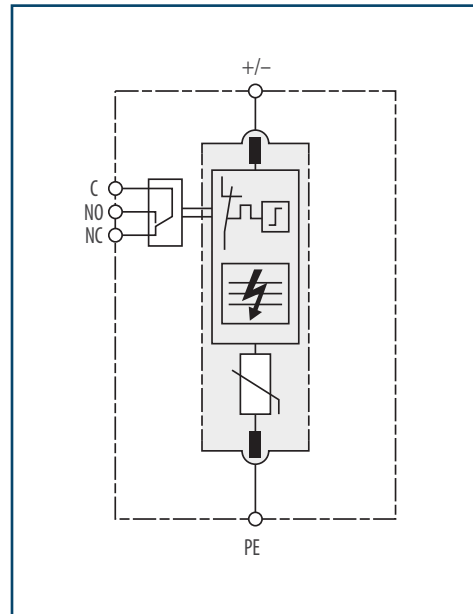
Characteristic	Model No.				
	1420A-PV-48-P 1420A-PV-48-D	1420A-PV-600-D 1420A-PV-600-Y	1420A-PV-1000-Y	1420A-PV-1200-Y	1420A-PV-1500-Y
Network Voltage (U_n) DC	48 VDC	600 VDC	1000 VDC	1200 VDC	1500 VDC
Compliance	UL1449 Type 4, Type 2 Location				
Product Technologies	High-energy MOV Technology Advanced Thermal Disconnecter (TD+)				
Protection Mode	Single CM**	CM** CM/DM**	CM/DM**		
Max. Operating Voltage (U_c) DC	85 VDC	670 VDC 700 VDC	1120 VDC	1340 VDC	1500 VDC
UL Nominal Discharge Current (I_n) 15 Impulses 8/20 μ s	20 kA				
Max. Discharge Current (I_{max}) 1 Impulse 8/20 μ s	50 kA				

**CM = Common Mode (+/PE or -/PE) and CM/DM = Common Mode and Differential Mode (\pm).

FEATURES AND BENEFITS

- High-energy MOV technology with Advanced Thermal Disconnecter (TD+)
- Status indicator
- Replaceable modular design
- Ideal solution for common mode and differential mode protection
- Remote signaling capability
- UL1449 Type 4, Type 2 Location
- High surge current discharge capacity up to 50 kA, 8/20 μ s

ELECTRICAL DIAGRAM



UNIQUE CONSTRUCTION

A downside of many SPDs and MOVs is that they may go into thermal runaway due to sustained abnormal overvoltage (TOV) events or from a surge with unexpected energy. These issues can be a threat to systems potentially causing overheating, smoke, and even a fire hazard.

The new Bourns® Model 1420A SPD with Advanced Thermal Disconnecter (TD+) is an optimal solution to avoid a thermal runaway condition. It can be fail-safe & self-protected without upstream overcurrent protection. The additional window fault indication and remote alarm contact can monitor the operating status of the surge protector.

HOW TO ORDER

Model Designator **1420A - P V - xxxx - x**

1420A = Advanced Version of 1420 Series

Application Code
PV = Photovoltaic

Network Voltage
48 = 48 VDC
600 = 600 VDC
1000 = 1000 VDC
1200 = 1200 VDC
1500 = 1500 VDC

Configuration
P = Single protection
D = V configuration
Y = Y configuration

APPLICATIONS

- DC power applications
- Photovoltaic systems
- EV charging stations

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

MORE INFORMATION

- AC Power SPDs: [Model 1250 Series SPD](#)
- [High-energy MOVs](#)
- [High-current GDTs](#)
- [Power TVS Diodes](#)

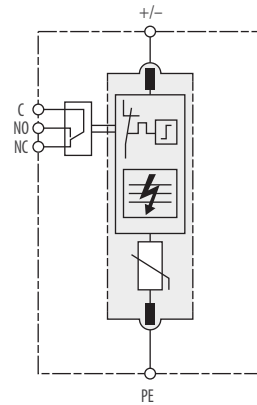
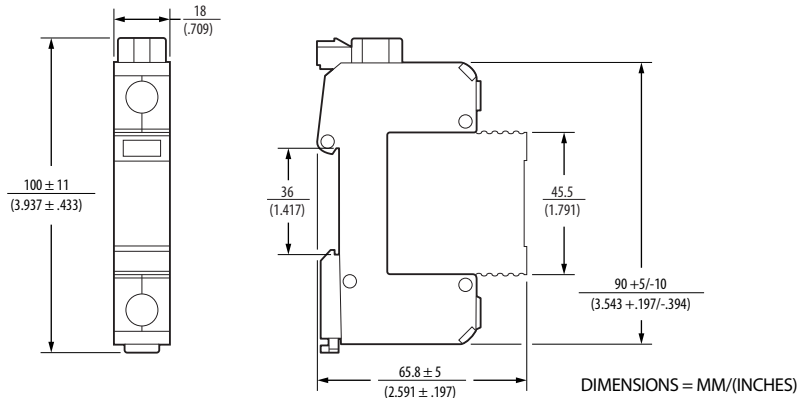
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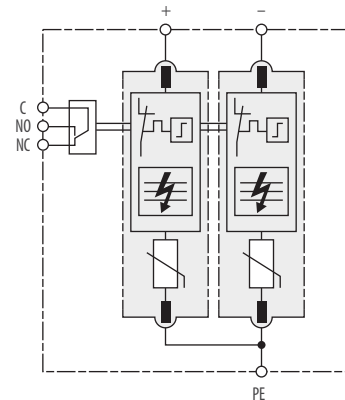
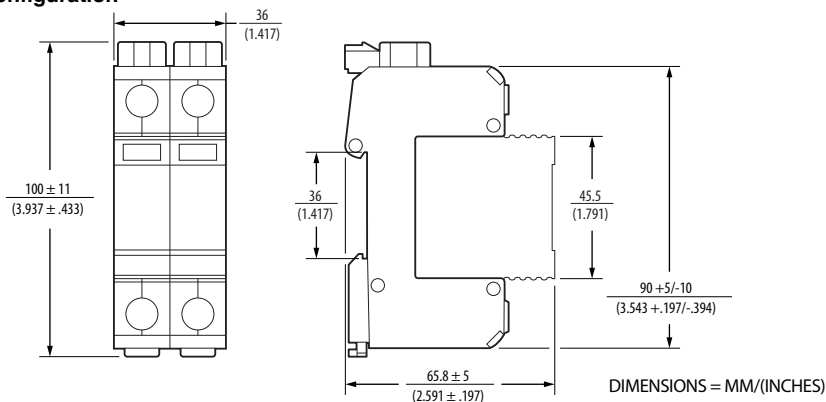


PRODUCT DIMENSIONS & SCHEMATICS

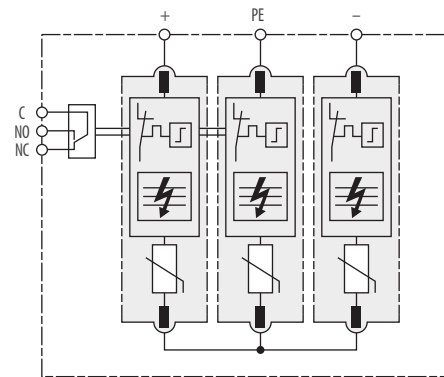
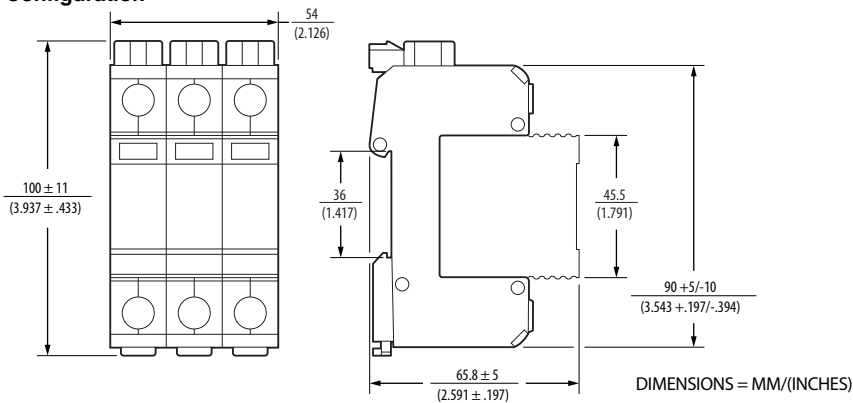
Single Protection



V Configuration



Y Configuration



3D Models are available in STP format.

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