

Features

- High energy MOV technology with Thermal Disconnect
- Status indicator
- Replaceable modular design
- For Common Mode and Differential Mode protection
- Remote signaling capability
- IEC/EN 61643-31 compliant Class I + Class II / T1+T2 SPD
- With 80 kA I_{max} (8/20 μ s) and 12.5 kA I_{imp} (10/350 μ s) current capability
- RoHS compliant*

1430 Series – IEC Class I DC Surge Protective Device

General Information

The Bourns® Model 1430 Series is an IEC Class I + Class II DC Surge Protective Device (SPD) designed to protect power systems from damage due to lightning, transients and power surges, up to rated limits.

The Model 1430 Series is a Din-Rail mountable SPD designed to protect DC power systems operating up to 1500 VDC.

Additional Information

Click these links for more information:



Electrical Characteristics

| Characteristic | Model No. | | | | |
|--|---|--------------------------------|---|--------------------------------|---|
| | 1430-PV-48-P 1430-PV-48-D | 1430-PV-60-P 1430-PV-60-D | 1430-PV-100-P 1430-PV-100-D 1430-PV-100-Y | 1430-PV-150-P 1430-PV-150-D | 1430-PV-200-P 1430-PV-200-D 1430-PV-200-Y |
| Network Voltage (U_n) DC | 48 VDC | 60 VDC | 100 VDC | 150 VDC | 200 VDC |
| Compliance | IEC/EN 61643-31 Class I + Class II / T1 + T2 | | | | |
| Product Technologies | High energy MOV Technology Thermal Disconnect | | | | |
| Protection Mode | Single CM ¹ | | Single CM CM/DM ¹ | Single CM ¹ | Single CM CM/DM ¹ |
| Max. Operating Voltage (U_c) DC | 85 VDC | 100 VDC | 125 VDC 170 VDC (Y config.) | 170 VDC | 225 VDC 250 VDC (Y config.) |
| Nominal Discharge Current (I_n) 8/20 μ s | 25 kA | | | | |
| Max. Discharge Current (I_{max}) 1 Impulse 8/20 μ s | 80 kA | | | | |
| Impulse Discharge Current (I_{imp}) 10/350 μ s | 12.5 kA | | | | |
| Protection Level (U_p) | ≤ 0.6 kV ≤ 0.6 kV | ≤ 0.7 kV ≤ 0.7 kV | ≤ 0.7 kV ≤ 0.7 kV ≤ 1.0 kV | ≤ 0.8 kV ≤ 0.8 kV | ≤ 1.0 kV ≤ 1.0 kV ≤ 1.2 kV |
| Short Circuit Current Rating (I_{scpv}) | 25 kA | | | | |
| Leakage Current at U_c | < 100 μ A | | | | |
| Follow Current (I_f) | None | | | | |

Note 1. CM = Common Mode (+/PE or -/PE) and CM/DM = Common Mode and Differential Mode (\pm).

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

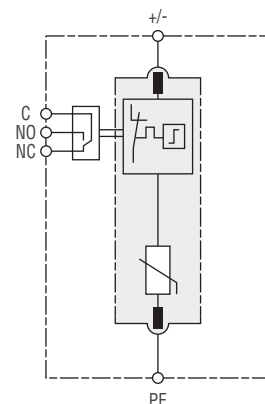
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Users should verify actual device performance in their specific applications.

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Electrical Diagram



Applications

- DC power systems
- Photovoltaic systems
- EV charging stations

1430 Series – IEC Class I DC Surge Protective Device

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Electrical Characteristics (continued)

| Characteristic | Model No. | | | | |
|--|---|---|--------------------------------|---|---------------|
| | 1430-PV-300-P 1430-PV-300-D 1430-PV-300-Y | 1430-PV-400-P 1430-PV-400-D 1430-PV-400-Y | 1430-PV-500-P 1430-PV-500-D | 1430-PV-600-P 1430-PV-600-D 1430-PV-600-Y | 1430-PV-750-P |
| Network Voltage (U_n) DC | 300 VDC | 400 VDC | 500 VDC | 600 VDC | 750 VDC |
| Compliance | IEC/EN 61643-31 Class I + Class II / T1 + T2 | | | | |
| Product Technologies | High energy MOV Technology Thermal Disconnect | | | | |
| Protection Mode | Single CM CM/DM ¹ | | Single CM ¹ | Single CM CM/DM ¹ | Single |
| Max. Operating Voltage (U_c) DC | 350 VDC 340 VDC (Y config.) | 460 VDC 450 VDC (Y config.) | 560 VDC | 670 VDC 700 VDC (Y config.) | 800 VDC |
| Nominal Discharge Current (I_n) 8/20 μ s | 25 kA | | | | |
| Max. Discharge Current (I_{max}) 1 Impulse 8/20 μ s | 80 kA | | | | 65 kA |
| Impulse Discharge Current (I_{imp}) 10/350 μ s | 12.5 kA | | | | 8 kA |
| Protection Level (U_p) | ≤ 1.4 kV ≤ 1.4 kV ≤ 1.5 kV | ≤ 1.6 kV ≤ 1.6 kV ≤ 2.0 kV | ≤ 1.8 kV ≤ 1.8 kV | ≤ 2.2 kV ≤ 2.2 kV ≤ 2.5 kV | ≤ 2.5 kV |
| Short Circuit Current Rating (I_{scpv}) | 25 kA | | | | |
| Leakage Current at U_c | < 100 μ A | | | | |
| Follow Current (I_f) | None | | | | |

| Characteristic | Model No. | | | |
|--|---|----------------|----------------|----------------|
| | 1430-PV-800-Y | 1430-PV-1000-Y | 1430-PV-1200-Y | 1430-PV-1500-Y |
| Network Voltage (U_n) DC | 800 VDC | 1000 VDC | 1200 VDC | 1500 VDC |
| Compliance | IEC/EN 61643-31 Class I + Class II / T1 + T2 | | | |
| Product Technologies | High energy MOV Technology Thermal Disconnect | | | |
| Protection Mode | CM/DM ¹ | | | |
| Max. Operating Voltage (U_c) DC | 920 VDC | 1120 VDC | 1340 VDC | 1500 VDC |
| Nominal Discharge Current (I_n) 8/20 μ s | 25 kA | | | |
| Max. Discharge Current (I_{max}) 1 Impulse 8/20 μ s | 80 kA | | | 65 kA |
| Impulse Discharge Current (I_{imp}) 10/350 μ s | 12.5 kA | | | 8 kA |
| Protection Level (U_p) | ≤ 3.0 kV | ≤ 3.5 kV | ≤ 4.0 kV | ≤ 4.5 kV |
| Short Circuit Current Rating (I_{scpv}) | 25 kA | | | |
| Leakage Current at U_c | < 100 μ A | | | |
| Follow Current (I_f) | None | | | |

Note 1. CM = Common Mode (+/PE or -/PE) and CM/DM = Common Mode and Differential Mode (\pm).

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General Characteristics

| Characteristic | 1430-PV-xxx-x |
|-------------------------|---|
| Thermal Disconnect | Internal green – normal; red - failure |
| Dimensions | See Product Dimensions |
| Connection | By Screw Terminal: Single-strand #2 AWG or 35 mm ² ; multi-strand #4 AWG or 25 mm ² |
| Disconnection Indicator | 1 Mechanical Indicator |
| Mounting | Din-Rail, 35 mm Symmetrical |
| Remote Signaling | 250 V / 0.5 A (AC) 125 V / 0.2 A (DC) |
| Enclosure Material | Thermoplastic UL 94V0 |


Environmental Characteristics

| Characteristic | 1430-PV-xxx-x |
|-----------------------|------------------|
| Operating Temperature | -40 °C to +85 °C |
| Operating Altitude | ≤4000 m |
| Environmental Rating | IP 20 |

Standards Compliance

IEC/EN 61643-31 Class I + Class II, T1 + T2
RoHS RoHS Directive 2015/863, Mar 31, 2015 and Annex

Agency Recognition

| Agency | Category | Agency File No. |
|---|--------------|-------------------------|
|  | IEC 61643-31 | B118437 |

How to Order

1430 - PV - xxxx - x

Model Designator _____
1430 = IEC Class I DC SPD

Application Code _____
PV = Photovoltaic

Network Voltage _____
 48 = 48 VDC 60 = 60 VDC
 100 = 100 VDC 150 = 150 VDC
 200 = 200 VDC 300 = 300 VDC
 400 = 400 VDC 500 = 500 VDC
 600 = 600 VDC 750 = 750 VDC
 800 = 800 VDC 1000 = 1000 VDC
 1200 = 1200 VDC 1500 = 1500 VDC

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

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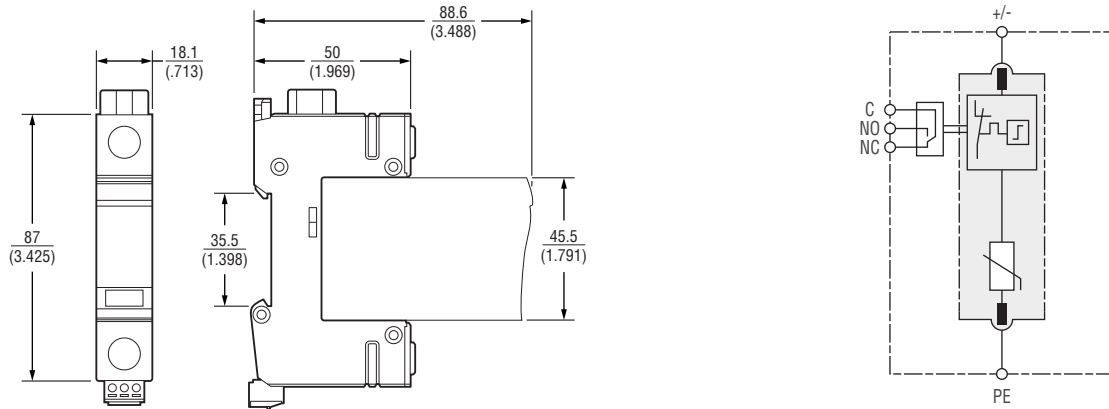
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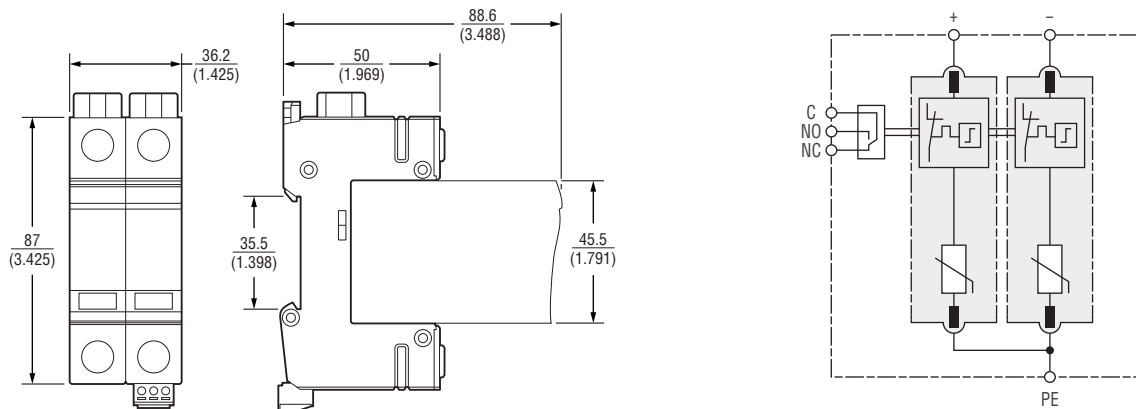
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Product Dimensions and Schematics

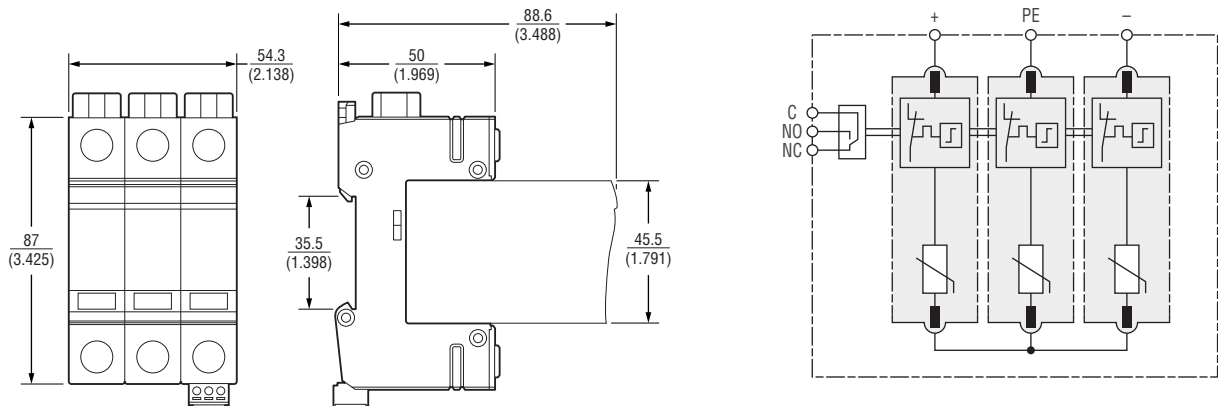
Single Protection



V Configuration



Y Configuration



REV. 06/25

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