Surge Protective Devices
SPD2 PV SERIES

Class 2 (IEC)/Type 2 (EN)/Type 1CA (UL)
Pluggable Multi-Pole for PV Systems

Description
Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The surge protective devices for solar string box and inverter applications are available in 1100 and 1500 V dc in the 3+0 configuration.

Features & Benefits

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability to clamp and withstand high-energy transients</td>
<td>Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment</td>
</tr>
<tr>
<td>No additional overcurrent protection devices required in UL applications</td>
<td>Reduces the number of components and costs required for protection</td>
</tr>
<tr>
<td>Compact footprint</td>
<td>Increases panel design flexibility</td>
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<tr>
<td>Visual life indicator</td>
<td>Quick visual determines module replacement status to avoid loss of protection</td>
</tr>
<tr>
<td>Pluggable modules</td>
<td>Fast and simple to replace, minimizing maintenance and downtime. No tools required</td>
</tr>
<tr>
<td>Thermal protection</td>
<td>Eliminates catastrophic failure</td>
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<tr>
<td>IP20 protection rating</td>
<td>Finger-safe design increases worker protection</td>
</tr>
</tbody>
</table>

Internal Configuration

Legend

- Protective Earth
- RC Optional Remote Contact
- TD Thermal Disconnection

Module & Base Ordering Information

<table>
<thead>
<tr>
<th>Ordering Number</th>
<th>IEC Electrical</th>
<th>UL Electrical</th>
<th>Single Unit Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum Continuous Operating Dc Voltage (U_{CPV})</td>
<td>Nominal Discharge Current (8/20 µs) (I_{n})</td>
<td>Maximum Discharge Current (8/20 µs) (I_{max})</td>
</tr>
<tr>
<td>SPD2-PV11-3P0</td>
<td>1100 V</td>
<td>20 kA</td>
<td>40 kA</td>
</tr>
<tr>
<td>SPD2-PV11-3P0-R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPD2-PV15-3P0</td>
<td>1500 V</td>
<td>15 kA</td>
<td>40 kA</td>
</tr>
<tr>
<td>SPD2-PV15-3P0-R</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Module & Base Part Numbering System

**SPD2 PV VV XPZ R**

- Series
- Photovoltaic
- Maximum Continuous Operating Dc Voltage in Hundreds
- Optional Remote Contact
- Neutral (1=yes or 0=no)
- Number of Poles

Module Only Part Numbering System

**SPD2 PV VV M**

- Series
- Photovoltaic
- Module Only
- Dc Voltage

Replacement Module Ordering Information

<table>
<thead>
<tr>
<th>Ordering Number</th>
<th>Maximum Continuous Operating Dc Voltage (U_{dcv})</th>
<th>Nominal Discharge Current (8/20 µs) (I_n)</th>
<th>Maximum Discharge Current (8/20 µs) (I_{max})</th>
<th>Total Discharge Current (I_{Total})</th>
<th>Voltage Protection Level (U_p)</th>
<th>Short-Circuit Current Rating (I_{SCCPV})</th>
<th>Maximum Permitted Dc Voltage (I_{pvdc})</th>
<th>Voltage Protection Rating (VPR)</th>
<th>Short-Circuit Current Rating (SCCR)</th>
<th>Single Unit Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPD2-PV550-M</td>
<td>1100 V</td>
<td>20 kA</td>
<td>40 kA</td>
<td>50 kA</td>
<td>4200 V</td>
<td>9 kA</td>
<td>1100 V</td>
<td>3000 V</td>
<td>20 kA</td>
<td>61 g (0.134 lb)</td>
</tr>
<tr>
<td>SPD2-PV750-M</td>
<td>1500 V</td>
<td>15 kA</td>
<td>40 kA</td>
<td>4800 V</td>
<td>9 kA</td>
<td>1500 V</td>
<td>4000 V</td>
<td>20 kA</td>
<td>65 kA</td>
<td>71 g (0.157 lb)</td>
</tr>
</tbody>
</table>

Specifications

- **Mode of Protection**: ( + ) - PE, ( - ) - PE, ( + ) - ( - )
- **Nominal Discharge Current (8/20 µs) (I_n)**: 20 kA
- **Maximum Discharge Current (8/20 µs) (I_{max})**: Up to 40 kA
- **Protective Elements**: High Energy MOV
- **Response Time (t_{A})**: < 25 ns
- **Number of Ports**: 1
- **Operating State/Fault Indication**: Green Flag/No Green Flag
- **Remote Contact Switching Capacity**: Ac: 250 V/1 A, 125 V/1 A; Dc: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
- **Remote Contact Conductor Cross Section (max)**: 1.5 mm² (16 AWG) (Solid)
- **Product Dimensions**: 3TE Module and Base: H 90.7 mm (3.57”); W 53.8 mm (2.11”); D 46.1 mm (1.80”); 1TE Replacement Module: H 45.0 mm (1.77”); W 18.0 mm (0.71”); D 57.2 mm (2.25”)
- **Package Dimensions**: 3TE Module and Base: H 102.0 mm (4.01”); W 64.0 mm (2.52”); D 110.0 mm (4.33”); 1TE Replacement Module: H 102.0 mm (4.01”); W 28.0 mm (1.10”); D 110.0 mm (4.33”)
- **Operating Temperature**: -40 °C to +80 °C (-40 °F to +185 °F)
- **Permissible Operating Humidity (RH)**: 5% to 95%
- **Altitude (max)**: 4,000 m (13,123 ft)
- **Terminal Screw Torque (M_{max})**: 4.5 Nm (39.9 lb-in)
- **Conductor Cross Section (max)**: 35 mm² (2 AWG) (Solid, Stranded)/25 mm² (4 AWG) (Flexible)
- **Mounting**: 35 mm DIN Rail, EN60715
- **Degree of Protection**: IP20 (built-in)
- **Housing Material**: Thermoplastic: Extinguishing Degree UL 94 V-0
- **Thermal Protection**: Yes

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