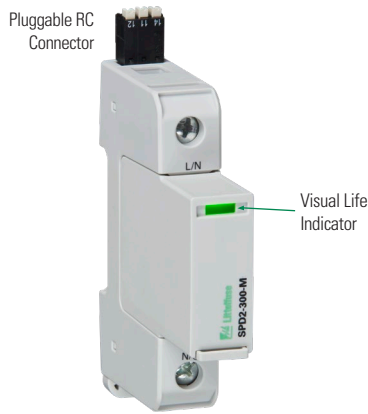


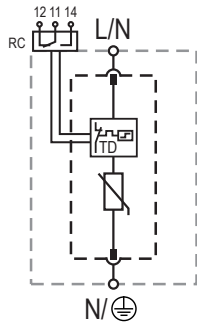
Surge Protection Devices

SPD2 1P+0 SERIES

Class II/Type 2/Type 1 CA Pluggable Single-Pole



Internal Configuration



Legend

- L Line
- N Neutral
- ⊕ Protective Earth
- RC Remote Contacts
- TD Thermal Disconnection

Description

Surge protection 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 protection devices for the 1+0 configuration are available for 60 V to 600 V nominal voltage sub-distribution board applications.

Features & Benefits

| FEATURES | BENEFITS |
|---|---|
| Capability to clamp and withstand high-energy transients | Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment |
| UL Recognized and VDE-IEC compliant in single part number | One component can be utilized globally, reducing inventory needs and simplifying allocation of parts |
| Interlocking tab mechanism | Secures module to withstand vibration |
| No additional overcurrent protection devices required in UL applications | Reduces the number of components and costs required for protection |
| Compact footprint | Increases panel design flexibility |
| Visual life indicator | Quick visual determines module replacement status to avoid loss of protection |
| Pluggable modules | Fast and simple to replace, minimizing maintenance and downtime. No tools required |
| Thermal protection | Eliminates catastrophic failure |
| IP20 protection rating | Finger-safe design increases worker protection |

Module & Base Ordering Information

| Ordering Number | IEC Electrical | | | | | | | | UL Electrical | | | | Single Unit Weight |
|-----------------|---|---|--|--|------------------------------------|--|-----------------------------|------------------------------|--|---------------------------------|--|-------------------------------------|--------------------|
| | Nominal AC Voltage (50/60 Hz) (U_p/U_n) | Maximum Continuous Operating AC Voltage (U_c) | Nominal Discharge Current (8/20 μ s) (I_n) | Maximum Discharge Current (8/20 μ s) (I_{max}) | Voltage Protection Level (U_p) | Short-Circuit AC Current Rating (I_{scac}) | TOV Withstand 5 s (U_t) | TOV 120 min (U_t) / Mode | Maximum Continuous AC Operating Voltage (MCOV) | Voltage Protection Rating (VPR) | Nominal Discharge Current (8/20 μ s) (I_n) | Short-Circuit Current Rating (SCCR) | |
| SPD2-075-1P0-R | 60 V | 75 V | 20 kA | 50 kA | 800 V | 25 kA / 50 kA | 114 V | 114 V / Withstand | 75 V | 330 V | 20 kA | 100 kA | 124 g (0.274 lb) |
| SPD2-150-1P0-R | 120 V | 150 V | 20 kA | 50 kA | 1250 V | 25 kA / 50 kA | 229 V | 229 V / Withstand | 150 V | 600 V | 20 kA | 200 kA | 128 g (0.283 lb) |
| SPD2-300-1P0-R | 240 V | 300 V | 20 kA | 50 kA | 1500 V | 25 kA / 50 kA | 337 V | 442 V / Safe Fail | 300 V | 900 V | 20 kA | 150 kA | 135 g (0.298 lb) |
| SPD2-350-1P0-R | 277 V | 350 V | 20 kA | 50 kA | 1750 V | 25 kA / 50 kA | 403 V | 529 V / Safe Fail | 350 V | 1000 V | 20 kA | 200 kA | 140 g (0.309 lb) |
| SPD2-480-1P0-R | 400 V | 480 V | 20 kA | 50 kA | 2300 V | 25 kA / 50 kA | 581 V | 762 V / Safe Fail | 480 V | 1500 V | 20 kA | 200 kA | 145 g (0.320 lb) |
| SPD2-550-1P0-R* | 480 V | 550 V | 20 kA | 50 kA | 2500 V | 25 kA / 50 kA | 697 V | 915 V / Safe Fail | 550 V | 2000 V | 20 kA | 200 kA | 148 g (0.326 lb) |
| SPD2-750-1P0-R | 600 V | 750 V | 20 kA | 35 kA | 3400 V | 25 kA / 50 kA | 871 V | 1143 V / Safe Fail | 750 V | 2500 V | 20 kA | 200 kA | 161 g (0.355 lb) |

Surge Protection Devices

SPD2 1P+0 SERIES

Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

| Ordering Number | IEC Electrical | | | | | | | | UL Electrical | | | | Single Unit Weight |
|-----------------|---|---|--|--|------------------------------------|--|-----------------------------|------------------------------|--|---------------------------------|--|--------------------------------------|--------------------|
| | Nominal AC Voltage (50/60 Hz) (U_n) | Maximum Continuous Operating AC Voltage (U_c) | Nominal Discharge Current (8/20 μ s) (I_n) | Maximum Discharge Current (8/20 μ s) (I_{max}) | Voltage Protection Level (U_p) | Short-Circuit AC Current Rating (I_{scCR}) | TOV Withstand 5 s (U_T) | TOV 120 min (U_T) / Mode | Maximum Continuous AC Operating Voltage (MCOV) | Voltage Protection Rating (VPR) | Nominal Discharge Current (8/20 μ s) (I_n) | Short-Circuit Current Rating (ISCCR) | |
| SPD2-075-M | 60 V | 75 V | 20 kA | 50 kA | 800 V | 25 kA / 50 kA | 114 V | 114 V / Withstand | 75 V | 330 V | 20 kA | 100 kA | 50 g (0.111 lb) |
| SPD2-150-M | 120 V | 150 V | 20 kA | 50 kA | 1250 V | 25 kA / 50 kA | 229 V | 229 V / Withstand | 150 V | 600 V | 20 kA | 200 kA | 54 g (0.120 lb) |
| SPD2-300-M | 240 V | 300 V | 20 kA | 50 kA | 1500 V | 25 kA / 50 kA | 337 V | 442 V / Safe Fail | 300 V | 900 V | 20 kA | 150 kA | 61 g (0.135 lb) |
| SPD2-350-M | 277 V | 350 V | 20 kA | 50 kA | 1750 V | 25 kA / 50 kA | 403 V | 529 V / Safe Fail | 350 V | 1000 V | 20 kA | 200 kA | 66 g (0.146 lb) |
| SPD2-480-M | 400 V | 480 V | 20 kA | 50 kA | 2300 V | 25 kA / 50 kA | 581 V | 762 V / Safe Fail | 480 V | 1500 V | 20 kA | 200 kA | 71 g (0.157 lb) |
| SPD2-550-M* | 480 V | 550 V | 20 kA | 50 kA | 2500 V | 25 kA / 50 kA | 697 V | 915 V / Safe Fail | 550 V | 2000 V | 20 kA | 200 kA | 74 g (0.163 lb) |
| SPD2-750-M | 600 V | 750 V | 20 kA | 35 kA | 3400 V | 25 kA / 50 kA | 871 V | 1143 V / Safe Fail | 750 V | 2500 V | 20 kA | 200 kA | 87 g (0.192 lb) |

Specifications

| | |
|--|--|
| Network Systems | IT, TN-S, TN-C, TT (only L-N) |
| Mode of Protection | L-PE, N-PE (only TN-S), L-PEN, L-N |
| Nominal Discharge Current (8/20 μs) (I_n) | 20 kA |
| Maximum Discharge Current (8/20 μs) (I_{max}) | Up to 50 kA |
| Protective Elements | High Energy MOV |
| Response Time (L-N / N-PE t_A) | < 25 ns |
| Back-Up Fuse (max) | 315 A / 250 A Gg |
| Number of Ports | 1 |
| Mechanical & Environmental | |
| Operating Temperature Range (T_o) | -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 lbf-in) |
| Conductor Cross Section (max) | 35 mm ² (2 AWG) (Solid, Stranded) / 25 mm ² (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 |
| 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 mm ² (16 AWG) (Solid) |
| Standards Passed* | IEC 61643-11:2011 EN 61643-11:2012 UL 1449, 4th edition; E320116 |

| | |
|-------------------------------|--|
| Product Dimensions | |
| 1TE Module and Base | H 90.0 mm (3.54"); W 18.0 mm (0.71"); D 70.0 mm (2.76") |
| 1TE Replacement Module | H 45.0 mm (1.77"); W 18.0 mm (0.71"); D 57.2mm (2.25") |
| Package Dimensions | |
| 1TE Module and Base | H 102.0 mm (4.01"); W 28.0 mm (1.10"); 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") |

*SPD2-550-1P0-R and SPD2-550-M are UL Listed only

Warranty – Visit www.littelfuse.com/warranty for details.

Disclaimer Notice – Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/product-disclaimer.