

SLP10GI Module Series



Description

LSP's SLP10GI thermally protected Surge Protective Device is a self-protected device specially designed to be used in outdoor and commercial LED lighting fixtures for transient overvoltage protection. It has been developed with LSP's thermally protected varistor technology. Its built-in thermal disconnect function provides additional protection to prevent catastrophic failure and fire hazard even under extreme circumstances of varistor end-of-life or sustaining over voltage conditions.

The SLP10GI features a built-in LED indicator that notifies when replacement of the module is needed.

Features

- Build-in LED Indication, saves maintenance time by identifying replacement need
- Thermally Protected
- Suitable for use in luminaire with Class I or Class II insulation*
- 10kA Maximum Discharge Current (I_{max}), 8/20 μ s
- High line-to-earth/ground resistance
- IP66: Dust-tight and water resistant
- Parallel or Series connected options
- IEC 61643-11/EN 61643-11 recognized*

* See [Part Numbering System](#) for exact details of voltages available for Class I and Class II installations, and [Device Ratings and Specifications](#) table for voltage specific approvals.

Applications

- Outdoor and Commercial LED Lighting
- Roadway lighting
- Traffic lighting
- Digital signage
- Wall wash lighting
- Parking garage lighting
- Flood lighting
- Tunnel lighting
- Street lighting

Absolute Maximum Ratings

• For ratings of individual members of a series, see Device Ratings and Specifications chart

| | SLP10GI Series | Units |
|--|----------------|------------|
| Continuous: | | |
| Steady State Applied Voltage: | | |
| Max AC Voltage Range ($V_{M(AC)RMS}$) | 150 to 510 | V |
| Continuous Current | 3.5 | A |
| Transient: | | |
| Maximum Discharge Current, 8/20 μ s Waveform (I_{max}) | 10,000 | A |
| Nominal Discharge Current, 8/20 μ s Waveform (I_n) | 5,000 | A |
| Operating Ambient Temperature Range (T_A) | -40 to +85 | °C |
| Storage Temperature Range (T_{STG}) | -40 to +85 | °C |
| Isolation Voltage Capability (When the thermal disconnect opens) | 600 | V |
| Insulation Resistance | > 1,000 | M Ω |

CAUTION: Stresses above those listed in 'Absolute Maximum Ratings' may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

SLP10GI Module Series

SLP10GI Series Device Ratings and Specifications

| Type | Parallel/ Series | Operating Voltage (VAC) | MCOV/U _c ¹ (VAC) | Maximum Discharge Current ² I _{max} (A) | Nominal Discharge Current ³ I _n (A) | MLV ⁴ (V) | U _p ⁵ (V) | IEC/EN 61643-11 |
|-------------|------------------|-------------------------|--|---|---|-------------------------------------|---|-----------------|
| SLP10GI150S | S | 120 | 150 | 10,000 | 5,000 | L-N:650 L-G:1280 N-G:1230 | -- | -- |
| SLP10GI150P | P | 120 | 150 | 10,000 | 5,000 | L-N:650 L-G:1280 N-G:1230 | -- | -- |
| SLP10GI275S | S | 240 | 275 | 10,000 | 5,000 | L-N:1080 L-G:1230 N-G:1340 | L-N: 1300 L-G/PE: 2400 N-G/PE: 2200 | X |
| SLP10GI275P | P | 240 | 275 | 10,000 | 5,000 | L-N:1080 L-G:1230 N-G:1340 | L-N: 1300 L-G/PE: 2400 N-G/PE: 2200 | X |
| SLP10GI320S | S | 277 | 320 | 10,000 | 5,000 | L-N: 1260 L-G: 1260 N-G:1300 | L-N: 1400 L-G/PE: 2400 N-G/PE: 2200 | X |
| SLP10GI320P | P | 277 | 320 | 10,000 | 5,000 | L-N: 1260 L-G: 1260 N-G:1300 | L-N: 1400 L-G/PE: 2400 N-G/PE: 2200 | X |
| SLP10GI420S | S | 347 | 420 | 10,000 | 5,000 | L-N: 1530 L-G: 1550 N-G: 1410 | -- | -- |
| SLP10GI420P | P | 347 | 420 | 10,000 | 5,000 | L-N: 1530 L-G: 1550 N-G: 1410 | -- | -- |
| SLP10GI510S | S | 480 | 510 | 10,000 | 5,000 | L-N: 1800 L-G: 1900 N-G: 1410 | -- | -- |
| SLP10GI510P | P | 480 | 510 | 10,000 | 5,000 | L-N: 1800 L-G: 1900 N-G: 1410 | -- | -- |

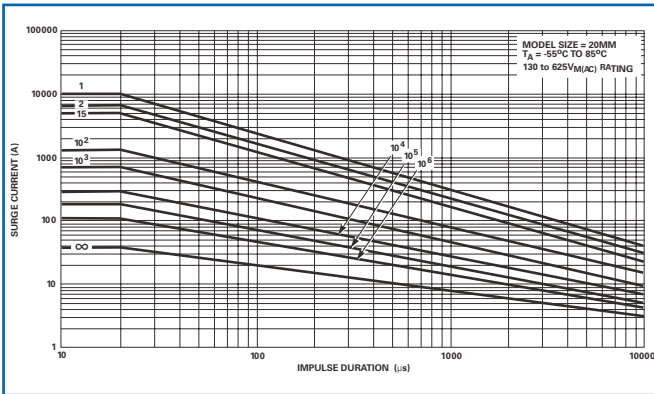
Glossary:

1. MCOV/U_c: Maximum Continuous Operating Voltage - maximum r.m.s. voltage that could be continuously applied to the SPD.
2. Maximum Discharge Current I_{max} (A): The maximum discharge current is a measure of the SPDs maximum capability; single impulse of discharge current uses the 8/20μs current waveform. All Devices pass maximum discharge current with possible, safe opening of thermal disconnect.
3. Nominal Discharge Current I_n (A): The nominal discharge current is a measure of the SPDs endurance capability; 15 impulses of discharge current uses the 8/20μs current waveform.
4. MLV: Measured limiting voltage; the highest value of residual voltage measurements during the application of impulses of 8/20μs nominal discharge current (I_n); an average voltage value of 15 impulses
5. U_p: IEC 61643-11 Voltage protection level; the highest value of residual voltage measurements during the application of impulses of 8/20μs nominal discharge current (I_n); a rounding voltage value of maximum measurement.

| Specification | Value | | Condition |
|--|------------------|------------------|--|
| | 240V | 277V | |
| Temporary Overvoltage (V) TOV U _T @ t _r = 5 s | 337 | 403 | LV System Fault for TN Power Grid |
| Temporary Overvoltage (V) TOV U _T @ t _r = 120 min | 442 | 529 | LV System Fault for TN Power Grid |
| Power grids | TN | TN | |
| Backup fuse (A) | 16 | 20 | Maximum gG Fuse |
| End of life indication | Yes | Yes | Optical Light ON: SPD is functional Light OFF: SPD has reached end-of-life |
| Max earth leakage current at U _c (I _e A) | 50 | 50 | |
| IEC 61643-11 Test Classification | Class II and III | Class II and III | |
| EN 61643-11 Type Classification | Type 2 and 3 | Type 2 and 3 | |

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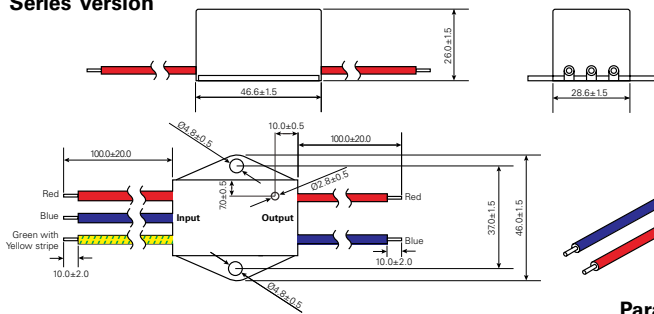
Repetitive Surge Capability



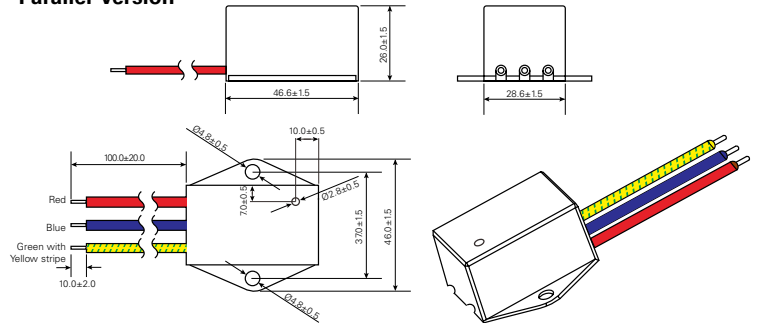
| Pulse Rating (8x20µSec) | |
|-------------------------|---------|
| Strikes | Surge |
| 1 | 10,000A |
| 2 | 7,000A |
| 15 | 5,000A |
| 100 | 1,500A |
| 1,000 | 700A |

Dimensions

Series Version



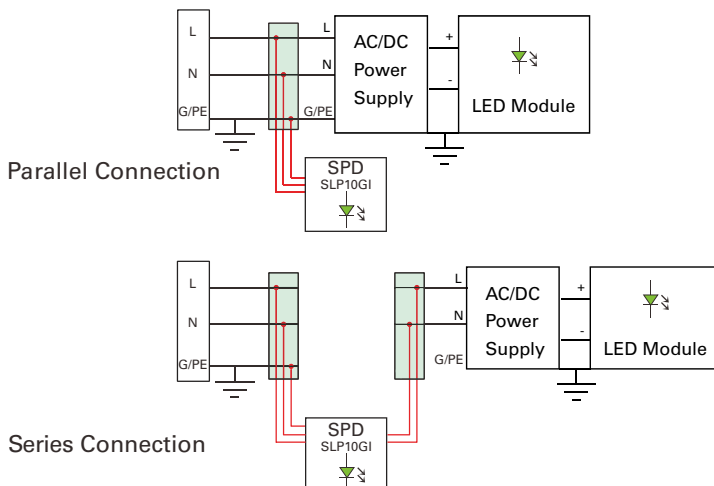
Parallel Version



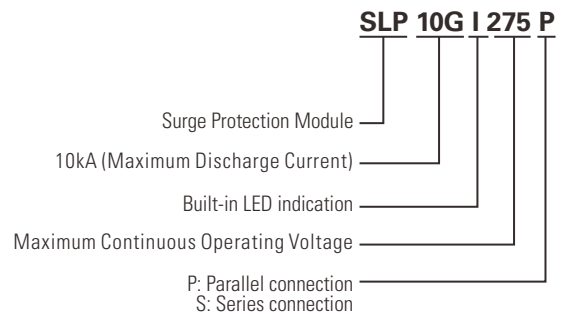
Notes:

1. Red: Line; Blue: Neutral; Green-Yellow Stripe: Earth/Ground.
2. Wire Gauge: 1.5mm², wire length: 100mm±20mm, wire stripping length: 10±2mm.
3. Caution: Line/neutral wires must be correctly connected to AC power grid. Wiring error on line/neutral polarity may cause module failure.
4. Dimensions are in millimeters (mm)

Application/Installation Schematic



Part Numbering System



Note:

- Green LED light on: SPD is good
- Green LED light off: SPD needs replacement