

SLP20GI Module Series



Description

The **LSP** SLP20GI thermally protected Surge Protective Device is a self-protected device which is specially designed to be used in outdoor and commercial LED lighting fixtures for transient overvoltage protection. It is constructed with **LSP** thermally protected varistor technology. Its built-in thermal disconnect function provides additional protection to prevent catastrophic failure and fire hazard even under the extreme circumstances of varistor end-of-life or sustaining over voltage conditions.

The SLP20GI provides coordinated surge protection with more LED drivers than other SPDs due to its exceptionally low Measured Limiting Voltage (MLV) and Voltage Protection Level (U_p). This lower clamping voltage can also help to extend the life-time of the luminaire. It also features a built-in LED indicator that notifies when replacement of the module is needed.

Applications

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

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*
- 20kA 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.

Absolute Maximum Ratings

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

	SLP20GI Series	Units
Continuous:		
Steady State Applied Voltage:		
Max AC Voltage Range ($V_{M(AC)RMS}$)	150 to 510	V
Continuous Current	5	A
Transient:		
Maximum Discharge Current, 8/20 μ s Waveform (I_{max})	20,000	A
Nominal Discharge Current, 8/20 μ s Waveform (I_n)	10,000	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.

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SLP20GI Series Device Ratings and Specifications

Type	Parallel/ Series	Operating Voltage (VAC)	MCOV/U _c (VAC) ¹	Maximum Discharge Current I _{max} (A) ²	Nominal Discharge Current I _n (A) ³	MLV (V) ⁴	U _p (V) ⁵	IEC/EN 61643-11
SLP20GI150S	S	120	150	20,000	10,000	L-N:740 L-G:740 N-G:670	900	–
SLP20GI150P	P	120	150	20,000	10,000	L-N:740 L-G:740 N-G:670	900	–
SLP20GI275S	S	240	275	20,000	10,000	L-N:1130 L-G:1130 N-G:1060	1200	–
SLP20GI275P	P	240	275	20,000	10,000	L-N:1130 L-G:1130 N-G:1060	1200	–
SLP20GI320S	S	277	320	20,000	10,000	L-N:1330 L-G:1330 N-G:1260	1500	–
SLP20GI320P	P	277	320	20,000	10,000	L-N:1330 L-G:1330 N-G:1260	1500	–
SLP20GI420S	S	347	420	20,000	10,000	L-N:1750 L-G:1750 N-G:1680	1900	–
SLP20GI420P	P	347	420	20,000	10,000	L-N:1750 L-G:1750 N-G:1680	1900	–
SLP20GI510S	S	480	510	10,000	10,000	L-N:2020 L-G:2020 N-G:1960	2100	–
SLP20GI510P	P	480	510	10,000	10,000	L-N:2020 L-G:2020 N-G:1960	2100	–

Glossary:

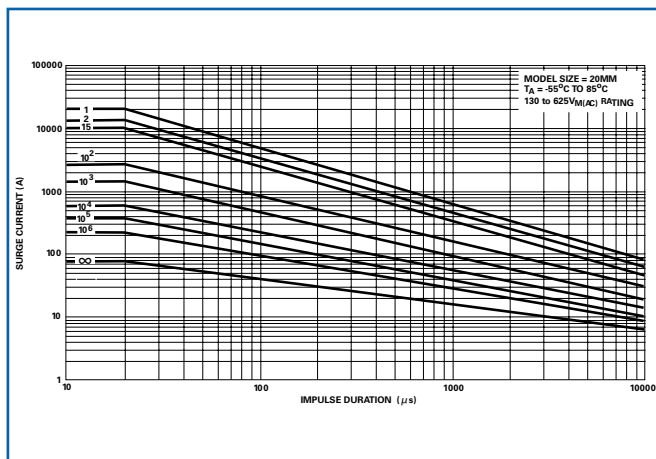
- MCOV/U_c: Maximum Continuous Operating Voltage - maximum r.m.s. voltage that could be continuously applied to the SPD.
- Maximum Discharge Current I_{max} (A): The maximum discharge current is a measure of the SPDs maximum capability; single impulse of discharge current uses the 8/20μs current waveform. All Devices pass maximum discharge current with possible, safe opening of thermal disconnect.
- 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.
- 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.
- 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
	120-277V	
Temporary Overvoltage (V) TOV UT @ t _T = 5 s	403	LV System Fault for TN Power Grid
Temporary Overvoltage (V) TOV UT @ t _T = 120 min	529	LV System Fault for TN Power Grid
Power grids	TN	
Backup fuse (A)	21	Maximum gG Fuse
End of life indication	Yes	Optical Light ON: SPD is functional Light OFF: SPD has reached end-of-life
Max earth leakage current at U _c (μA)	50	
IEC 61643-11 Test Classification	Test Class II and III	
EN 61643-11 Type Classification	Type 2 and 3	

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Specification	Value	Condition
	120-480V	
Backup fuse (A)	30	UL Class RK5:FLSR30
End of life indication	Yes	Optical Light ON: SPD is functional Light OFF: SPD has reached end-of-life

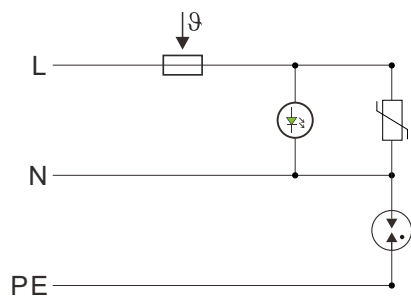
Repetitive Surge Capability



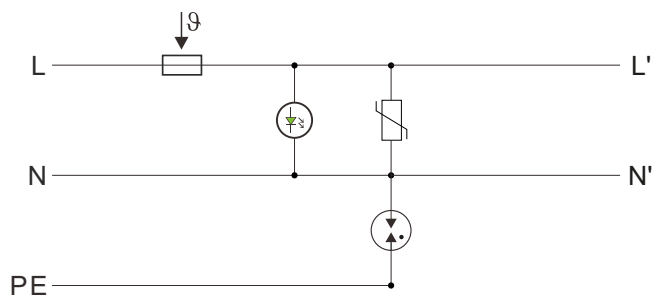
Pulse Rating (8x20µSec)	
Strikes	Surge
1	20,000A
2	15,000A
15	10,000A
100	3,000A
1,000	1,600A
1,0000	650A
1,00,000	400A
1,000,000	240A

Basic circuit diagram

Parallel Version

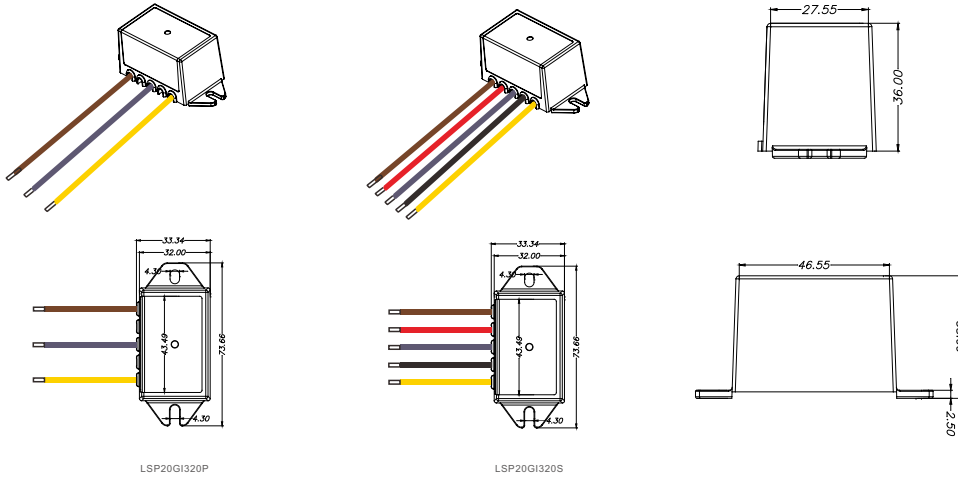


SeriesVersion



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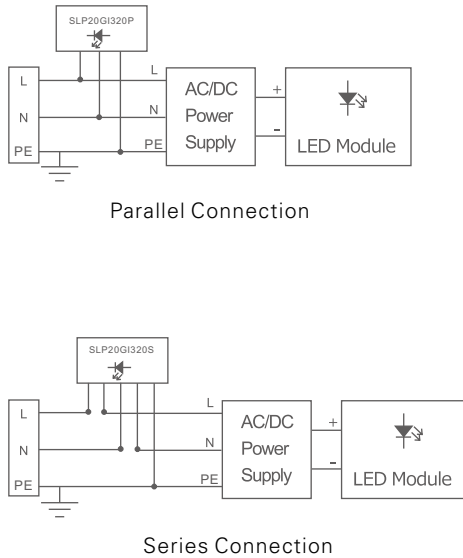
Dimensions



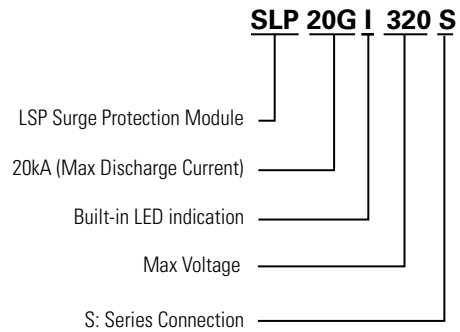
Notes:

1. Brown/Red-Line;Blue/Black-Neutral;Yellow/Green-Ground.
2. Wire Gauge: 1.5mm² wire line in/out;Wire Length:150mm or customized.
3. Use two M4 screws to fix the SPD.
4. Dimensions are in millimeters (mm)

Application/Installation Schematic



Part Numbering System



Notes:

1. Green LED light on: SPD is good
2. Green LED light off: SPD needs replacement

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. LSP products are not designed for, and may not be used in, all applications.