

Features

- Maximum Continuous Operating Voltage (L-N/L1-L2): 510Vac
- Maximum Continuous Operating Voltage (L-PE/N-PE): 320Vac
- L-N, L-PE and N-PE Protection Mode
- Suitable for TN Systems
- Maximum Discharge Current (I_{max}) 20kA, 8/20 μ s
- Nominal Discharge Current (I_n) 10kA, 8/20 μ s
- Open Circuit Voltage (U_{oc}) 20kV, 1.2/50 μ s
- Thermally Protected
- End-of-life LED Indicator
- EN 61643-11 – T2 & T3
- IEC 61643-11 - Test Class II & Class III
- Parallel Installation
- IP65



Description

SPD 20/510 PL P5 thermally protected Surge Protective Device is designed to provide a higher level of lightning protection for LED drivers used in applications such as high-mast lighting and sports fields. It features thermal protection and end-of-life indication, effectively preventing catastrophic failure and fire hazards upon the SPD's end of life.

Models

Certification	Wiring Configuration ⁽¹⁾	Protection Mode	Max Clamped Voltage		Indicator Light	Wires	IP Rating	Model Number
			L-N/L-PE	N-PE				
TUV, CE, CB	Parallel	DM/CM	2500V	3200V	Y	Flying Leads	IP65	SPD 20/510 PL P5 FL
TUV, CE, CB	Parallel	DM/CM	2500V	3200V	Y	Cables	IP65	SPD 20/510 PL P5 V

Notes: (1) When the life of the SPD ends, the indicator will be off. Although the LED driver may still work normally, please replace the SPD in time.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Max. Continuous Operating Voltage (MCOV/ U_c) ⁽¹⁾	-	-	510 Vac	L-N/ L1-L2
	-	-	320 Vac	L-PE, N-PE
Input Frequency	47 Hz	-	63 Hz	
Nominal Discharge Current (I_n) ⁽²⁾			10 kA	8/20 μ s current waveform
Maximum Discharge Current (I_{max}) ⁽³⁾			20 kA	8/20 μ s current waveform
Open Circuit Voltage (U_{oc}) ⁽⁴⁾			20 kV	1.2/50 μ s open circuit voltage waveform

General Specifications (Continued)

Parameter		Min.	Typ.	Max.	Notes
Clamping Voltage Up ⁽⁵⁾	L-N, L-PE			2500 V	Measured at a 20kV/10kA combination wave and 10kA 8/20μs
	N-PE			3200 V	
Earthing Systems		TN			
End-of-life LED Indicator		Yes			GREEN: Good OFF: Replace
Repetitive Surge Capability (each coupling mode)					8/20μs current waveform
20 kA		1	-	-	
10 kA		15	-	-	
4 kA		100	-	-	
2 kA		500	-	-	
Dimensions					With mounting ear 3.23 × 1.55 × 0.70 82 × 39.3 × 17.7
Inches (L × W × H)		2.76 × 1.55 × 0.70			
Millimeters (L × W × H)		70 × 39.3 × 17.7			
Net Weight	SPD 20/510 PL P5 FL		81 g		
	SPD 20/510 PL P5 V		86 g		

- Notes:** (1) Maximum Continuous Operating Voltage (MCOV/ U_c): The maximum r.m.s. voltage that could be continuously applied to the SPD
- (2) Nominal Discharge Current (I_n): The peak amount of current that the SPD can withstand for 15 impulses using the 8/20 μ s current wave. This measures the SPD's endurance capability.
- (3) Maximum Discharge Current (I_{max}): The peak amount of current that the SPD can withstand for 1 impulses using the 8/20 μ s current wave. This measures the SPD's maximum capability.
- (4) Open Circuit Voltage (U_{oc}): The peak amount of voltage that the SPD can withstand using the combination wave. This measures the SPD's maximum voltage capability.
- (5) Clamping Voltage (U_p): The measured amount of residual, or "let-through", voltage that can pass through the SPD during the application of impulses of Open Circuit Voltage (U_{oc}).

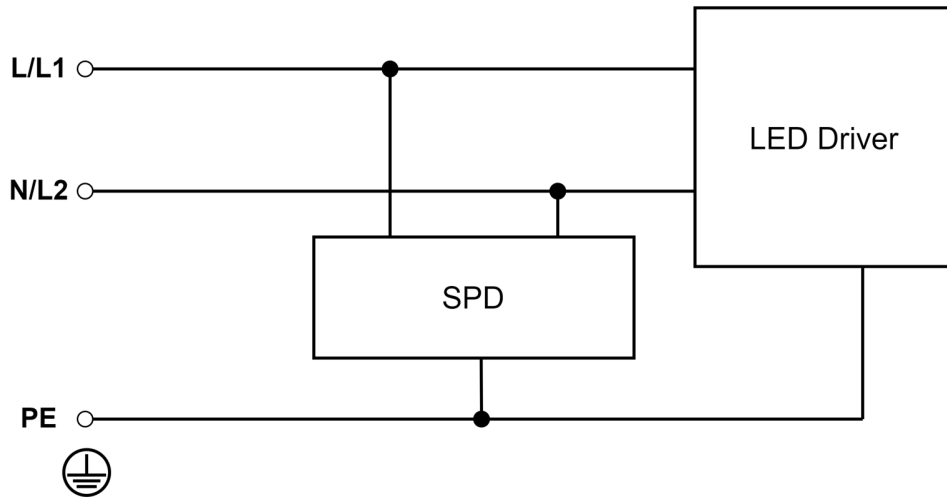
Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-40 °C	-	+85 °C	Humidity: 10% RH to 95% RH
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 95% RH

Safety & EMC Compliance

Safety Category	Standard
TUV & CE	EN 61643-11
CB	IEC 61643-11

Wiring

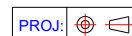
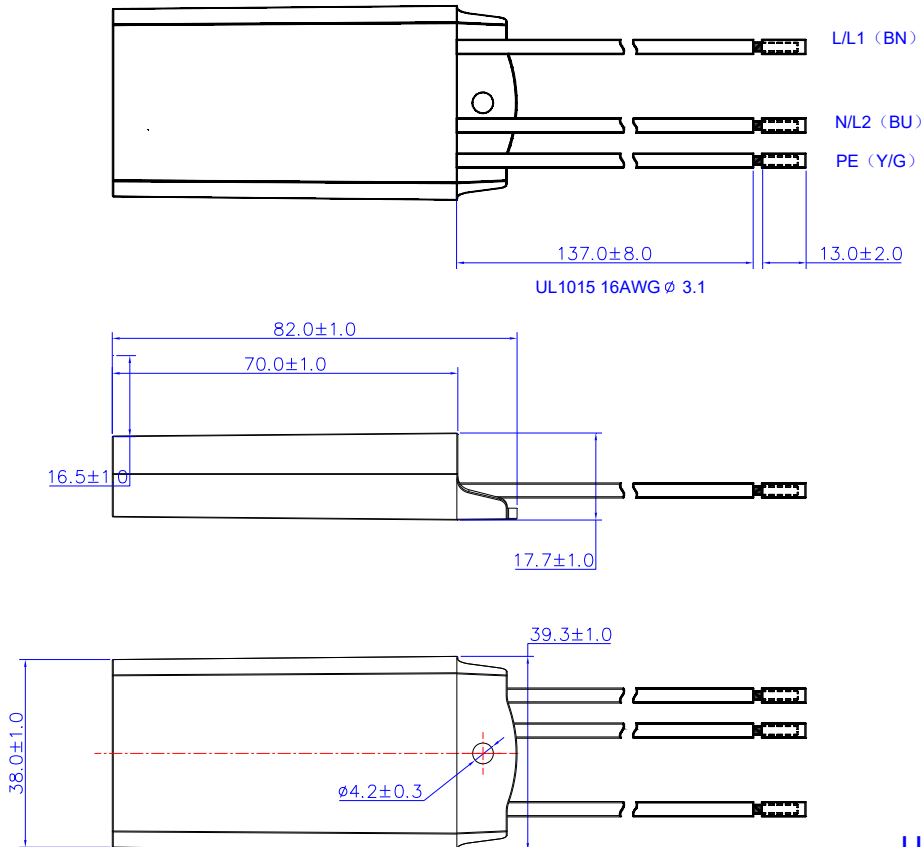


Note:

- When the life of the SPD ends, the indicator will be off. Although the LED driver may still work normally, please replace the SPD in time.

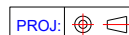
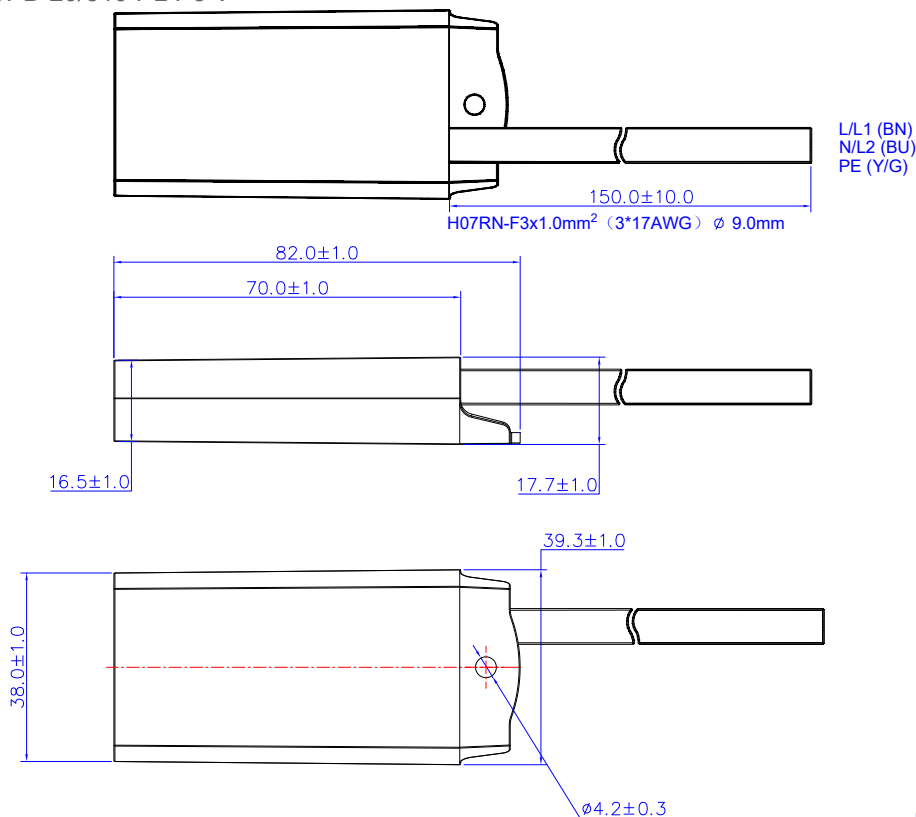
Mechanical Outline

SPD 20/510 PL P5 FL



Unspecified tolerance: ± 1

SPD 20/510 PL P5 V



Unspecified tolerance:±1

Product Order Overview

Order Code & Packaging

Order Code (EAN)	Product Version Name	Certification Markings on Product	Packaging unit (Pieces/Box)	Packing Dimensions (L × W × H)(mm)	Gross Weight (Kg)
6937186199027	SPD 20/510 PL P5 FL	TUV CE	150	395 x 267 x 285	13.692
6937186199041	SPD 20/510 PL P5 V	TUV CE	150	395 x 267 x 285	14.442

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2026-05-15	A	Datasheet Release	/	/
2026-06-18	B	Format	/	Updated
		Wiring	/	Updated