PHILIPS

Outdoor SPD

Surge Protector Class-I

Datasheet

Protect your outdoor luminaires against damaging spikes and transients

Outdoor SPD - Surge Protector Class-I

The unique solution for Outdoor lighting systems offering full protection against high surges in insulation Class I installations.

Benefits
· Maximize the lifetime of outdoor lighting applications
· Lower maintenance costs
· Easy to apply in new or existing installations

Features
· Suitable for insulation Class I luminaires only
· Long lifetime, robust protection against vibration and temperature
· Provides high surge protection of up to 10 kV / 10 kA for all lighting technologies
· Optical failure indicator

Application
· Highways
· Rural roads
· Industrial zones
· Open space parking areas

Logistical data

Specification item	Value
Product name Logistic	Surge Protector : SPD 2
code 12NC	9290 014 29806
Pieces per box	50

Electrical specifications

Specifications	Parameter	Value	Unit	Condition
Designation		Type 3		Acc. EN61643-11
Classification		Class III		Acc. IEC61643-11
Protection mode		Diff. mode & Comm. mode		
Nominal input voltage	U_n (L-N)	240	VAC	50 … 60 Hz, max. +10%
Max. continuous operating voltage	U_c (L-N)	264	VAC	50 … 60 Hz
Max. continuous operating voltage	U_c (L-GND)	264	VAC	50 … 60 Hz
Max. continuous operating voltage	U_c (N-GND)	264	VAC	50 … 60 Hz
Nominal discharge current	I_n (L-N)	5	kA	8/20 µs
Nominal discharge current	I_n (L-GND)	5	kA	8/20 µs
Nominal discharge current	I_n (N-GND)	5	kA	8/20 µs
Max. voltage protection level at I_n	U_p (L-N)	1.5	kV	See separate protection level table for other I_n values
Max. voltage protection level at I_n	U_p (L-GND)	2	kV	See separate protection level table for other I_n values
Max. voltage protection level at I_n	U_p (N-GND)	2	kV	See separate protection level table for other I_n values
Open-circuit voltage	U_{oc}	10	kV	
End of life		yes		Load OFF: SPD has reached end-of-life
Servicability		n/a		No user servicable parts inside
Max earth leakage current at U_c		50	µA	Max. rms, to GND

Other specifications

Specifications	Parameter	Value	Unit	Condition
Surge withstand capability		1	strike	max. at 10 kA
Surge withstand capability		50	strikes	min. at 5 kA
Surge withstand capability		100	strikes	min. at 3 kA
Nominal current		4	A	Rated load current at 50 … 60 Hz
Power consumption		0.01	W	max. at U_c = 264 VAC
Suitable for luminaires		Class I only		Insulation Class acc. IEC60598

Protection levels U_p

Surge Protector Class-I

I_c 8/20 µs	Differential mode U_2	Common mode U_1/U_2	I_c 8/20 µs	Differential mode U_2	Common mode U_1/U_2
1 kA	1100 V	1100 V / 1050 V	5 kA	1350 V	1800 V / 1450 V
3 kA	1250 V	1700 V / 1300 V	10 kA	1500 V	1900 V / 1850 V

Differential mode L-N

Common mode (L/N - ground, L+N - ground)
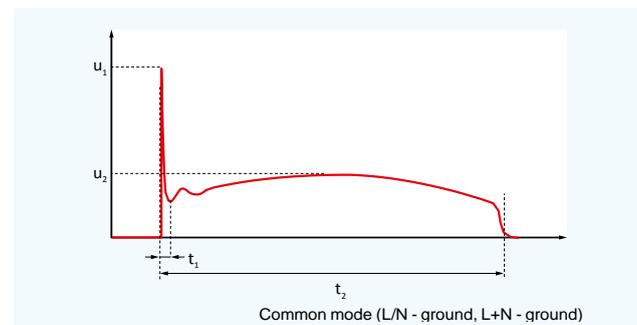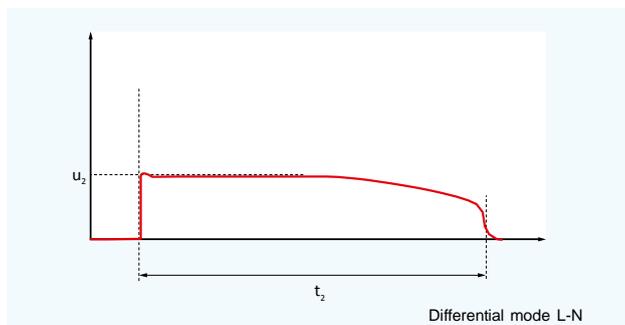
Environmental conditions

Specification item	Value	Unit	Condition
Ambient temperature	-40…70	°C	
Tcase-max.	80	°C	Measured at Tc-point
Storage temperature	-40…85	°C	
Relative humidity	5…95	%	Non-condensing
Suitable for outdoor luminaires	Yes		Built-in only

Lifetime

Specification item	Value	Unit	Condition
Lifetime	50,000	hours	Measured @ Tcase-max with min 90% survival

Product dimensions
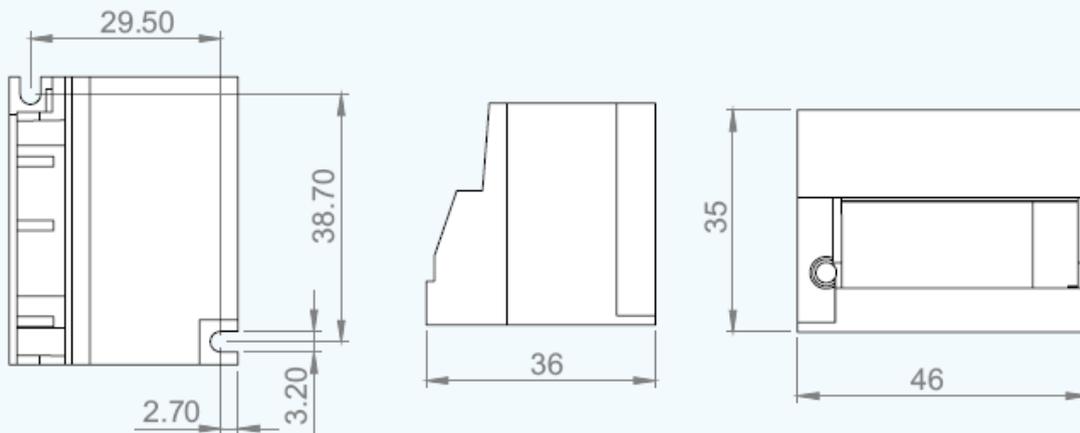
Specification item	Value	Unit
Mounting length & width	29.50 , 38.70	mm
Overall length	36	mm
Case Width	46	mm
Case Height	35	mm
Fixing hole diameter	M3	
Weight	35	gms

Wiring

Specification item	Value	Unit	Condition
Connector type	Screw type Connector		Single / multi-strand wire
Wire diameter	0.5…1.5	mm²	Solid and stranded
Wire strip length	5…6	mm	
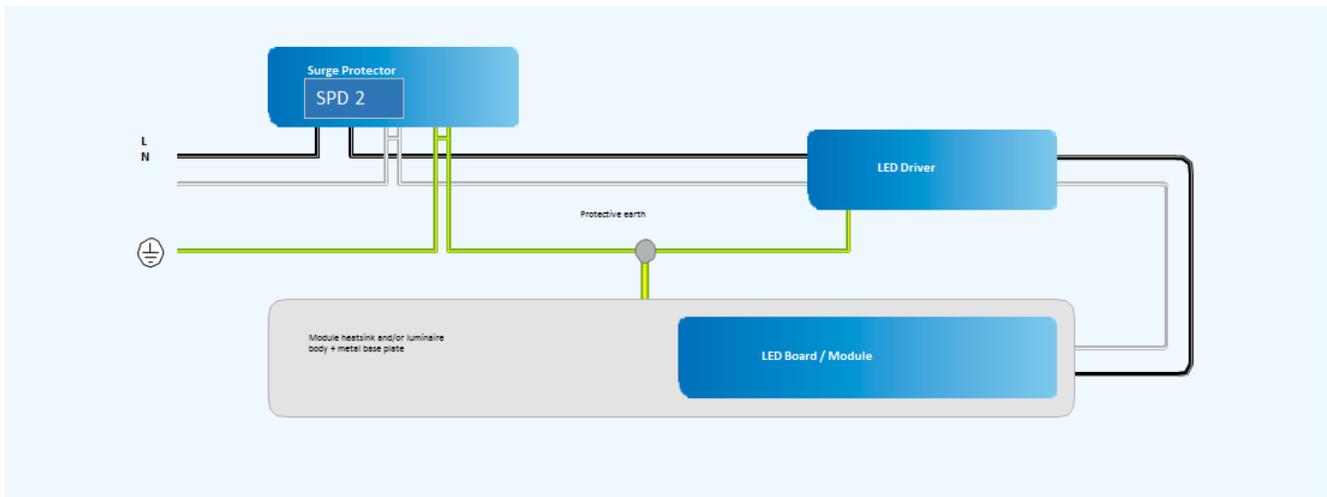
Wiring diagram of Series type surge Protector SPD 2

Electrical connections

Signal	Description	Color
LINE out	Line connection	Black
LINE in	Line connection	Black
NEUTRAL	Neutral connection	White
NEUTRAL	Neutral connection	White
GND	Ground connection	Green
GND	Ground connection	Green