

**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

Insulation Class	Application field				
	TN	TNC	TNS	TNCS	TT
Class I	✓	✓	✓	✓	✓

June 2017

## Logistical data

Specification item	Value
Product name	Surge Protector Class-I
European order code	8718696 772782 00
Logistic code I2NC	9290 016 07006
Pieces per box	20

## Electrical specifications

Specifications	Parameter	Value	Unit	Condition
Certifications		CE		
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)	230	VAC	50 ... 60 Hz, max. +10%
Max. continuous operating voltage	$U_c$ (L-N)	255	VAC	50 ... 60 Hz
Max. continuous operating voltage	$U_c$ (L-GND)	255	VAC	50 ... 60 Hz
Max. continuous operating voltage	$U_c$ (N-GND)	255	VAC	50 ... 60 Hz
Temporary overvoltage TOV	$U_T$	1455	V	MV system fault: 1200 V + 255 V, at $t_1 = 200$ ms, TT power grid
Temporary overvoltage TOV	$U_T$	337	V	LV system fault: 255 V x 1.32 at $t_1 = 120$ ms, TT power grid
Temporary overvoltage TOV	$U_T$	442	V	LV system fault: 255 V x $\sqrt{3}$ at $t_1 = 5$ s, TT power grid
Power grids		TN, TT		Incl. all TN varieties TN-C, TN-C-S, TN-S
Nominal discharge current	$I_n$ (L-N)	5	kA	8/20 $\mu$ s
Nominal discharge current	$I_n$ (L-GND)	5	kA	8/20 $\mu$ s
Nominal discharge current	$I_n$ (N-GND)	5	kA	8/20 $\mu$ s
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	
Backup fuse		20	A	max., gG fuse
End of life indication		yes		Optical, light ON: SPD is functional. Light OFF: SPD has reached end-of-life
Servicability		n/a		No user servicable parts inside
Max earth leakage current at $U_c$		50	$\mu$ A	Max. rms, to GND

## Other specifications

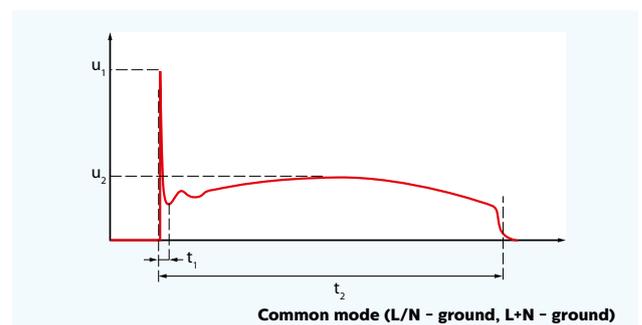
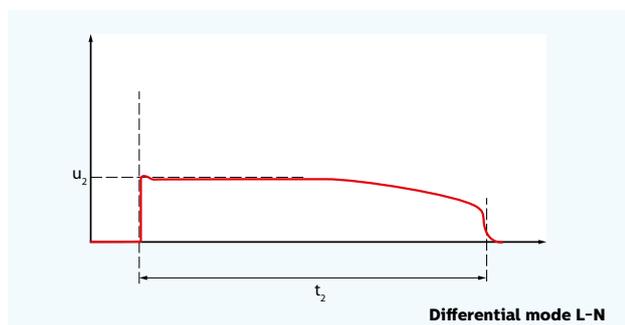
Specifications	Parameter	Value	Unit	Condition
Surge withstand capability		1	strike	max. at 10 kA
Surge withstand capability		50	strikes	min. at 5 kA
Surge withstand capability		100	strikes	min. at 3 kA
Nominal current		4	A	Rated load current at 50 ... 60 Hz
Power consumption		0.01	W	max. at $U_c = 255$ VAC
Suitable for luminaires		Class I only		Insulation Class acc. IEC60598

## Protection levels $U_p$

### Surge Protector Class-I

$I_c$ 8/20 $\mu$ s	Differential mode $U_2$	Common mode $U_1/U_2$
1 kA	1100 V	1100 V / 1050 V
3 kA	1250 V	1700 V / 1300 V

$I_c$ 8/20 $\mu$ s	Differential mode $U_2$	Common mode $U_1/U_2$
5 kA	1350 V	1800 V / 1450 V
10 kA	1500 V	1900 V / 1850 V



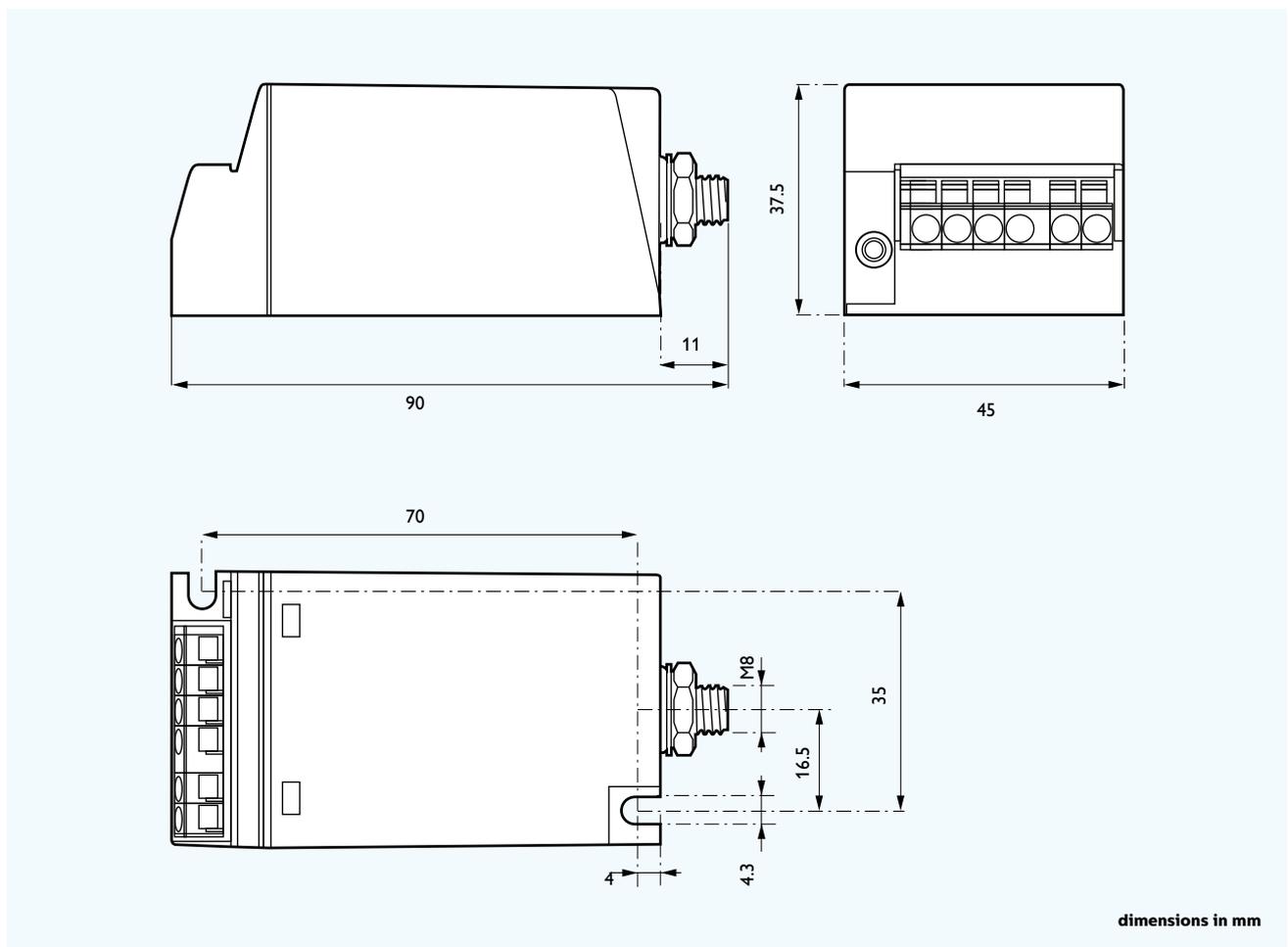
## Environmental conditions

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	100,000	hours	Measured @ Tcase-max with min 90% survival

## Product dimensions

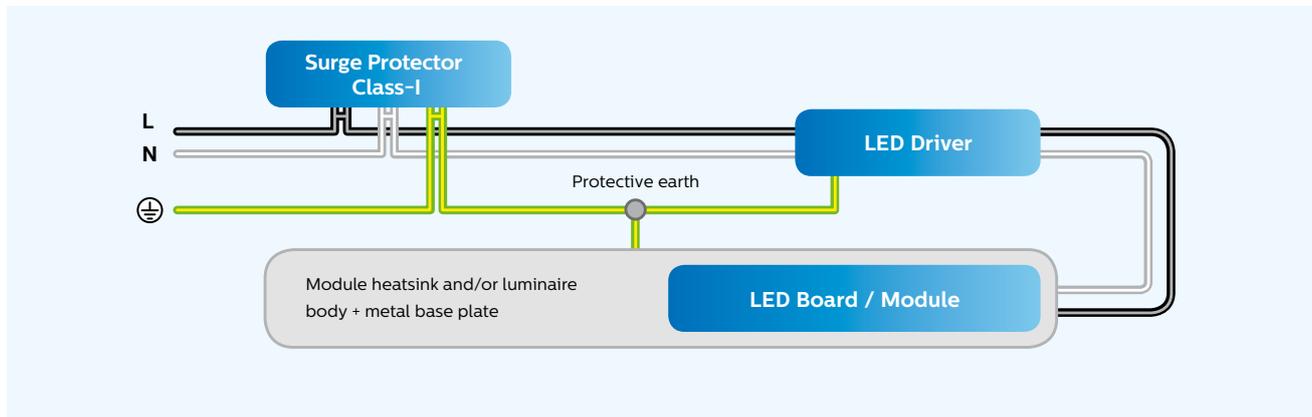


Specification item	Value	Unit
Mounting length	70	mm
Overall length	90	mm
Case Width	45	mm
Case Height	37.5	mm
Fixing hole diameter	M4	
Fixing screw type	M8	
Max. screw torque	0.8	Nm
Weight	70	gr

## Wiring

Specification item	Value	Unit	Condition
Connector type	Push-in		Single wire only
Wire diameter	0.5...2.5	mm <sup>2</sup>	Solid and stranded
Wire strip length	10...11	mm	

## Wiring diagram Insulation Class I application



## Electrical connections

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



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