

PHILIPS

Outdoor SPD

Xtreme Surge
Protector I/II Gen2



Datasheet

Protect your outdoor luminaires against damaging spikes and transients

Outdoor SPD - Xtreme Surge Protector I/II Gen 2

The unique solution for Outdoor lighting systems offering full protection against high surges in insulation Class I and Class II 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 and Class II luminaires
- Xtreme standard: long lifetime, robust protection against moisture, 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	IT
Class II	✓	✓	✓	✓	✓	✓
Class I	✓	✓	✓	✓	✓	✓

September 2014

Logistical data

Specification item	Value
Product name	Xtreme Surge Protector I/II
European order code	8718291 750345 00
Logistic code 12NC	9290 008 87006
Pieces per box	20

Electrical Specifications acc. Kema Keur

Specifications	Parameter	Value	Unit	Condition
Certifications		CE, Kema Keur		
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 $t_t = 200$ ms, TT and IT power grid
Temporary overvoltage TOV	U_T	337	V	LV system fault: 255 V x 1.32 at $t_t = 120$ m, TT and IT power grid
Temporary overvoltage TOV	U_T	442	V	LV system fault: 255 V x $\sqrt{3}$ at $t_t = 5$ s, TT and IT power grid
Power grids		TN, TT, IT		Incl. all TN varieties TN-C, TN-C-S, TN-S
Nominal discharge current	I_n (L-N)	5	kA	8/20 μ s
Nominal discharge current	I_n (L-GND)	5	kA	8/20 μ s
Nominal discharge current	I_n (N-GND)	5	kA	8/20 μ 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)	4	kV	See separate protection level table for other I_n values
Max. voltage protection level at I_n	U_p (N-GND)	4	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	μ A	Max. rms, to GND

Other specifications

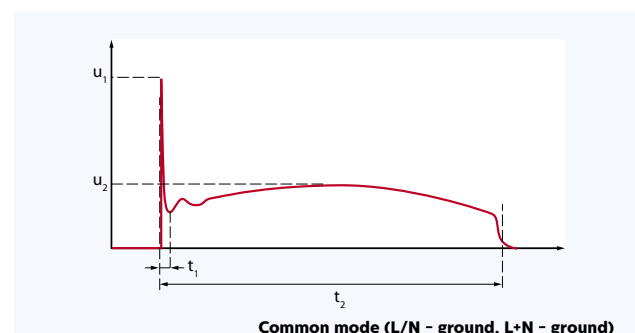
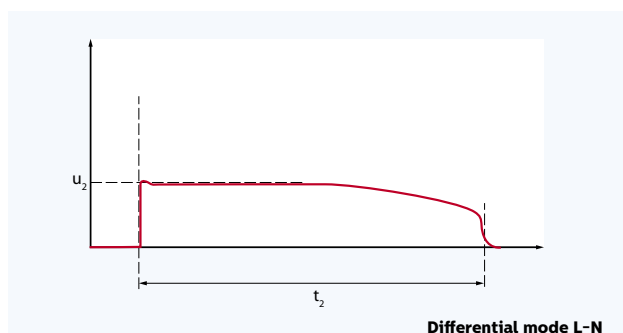
Specifications	Parameter	Value	Unit	Condition
Surge withstand capability		1	strike	max. at 10 kA
Surge withstand capability		50	strikes	min. at 5 kA
Surge withstand capability		100	strikes	min. at 3 kA
Nominal current		20	A	Rated load current at 50 ... 60 Hz
Power consumption		0,01	W	max. at $U_c = 255$ VAC
Suitable for luminaires		Class I & II		Insulation Class acc. IEC60598

Protection levels Up

Xt SPD I/II

I_c 8/20 μ s	Differential mode U_2	Common mode U_1/U_2
1 kA	1100 V	3000 V / 1050 V
3 kA	1250 V	3700 V / 1400 V

I_c 8/20 μ s	Differential mode U_2	Common mode U_1/U_2
5 kA	1350 V	4000 V / 1500 V
10 kA	1500 V	5000 V / 1700 V



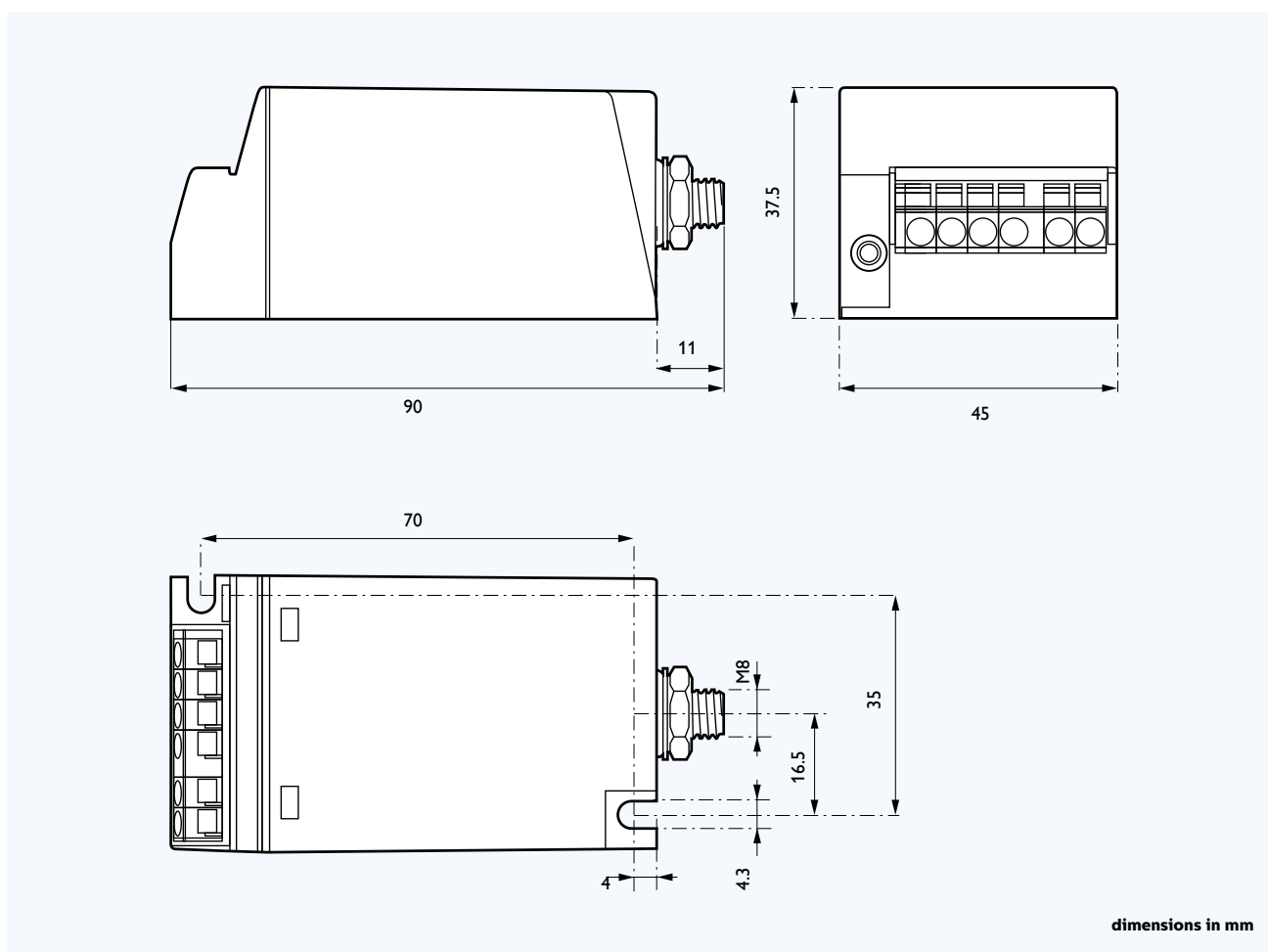
Environmental conditions

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

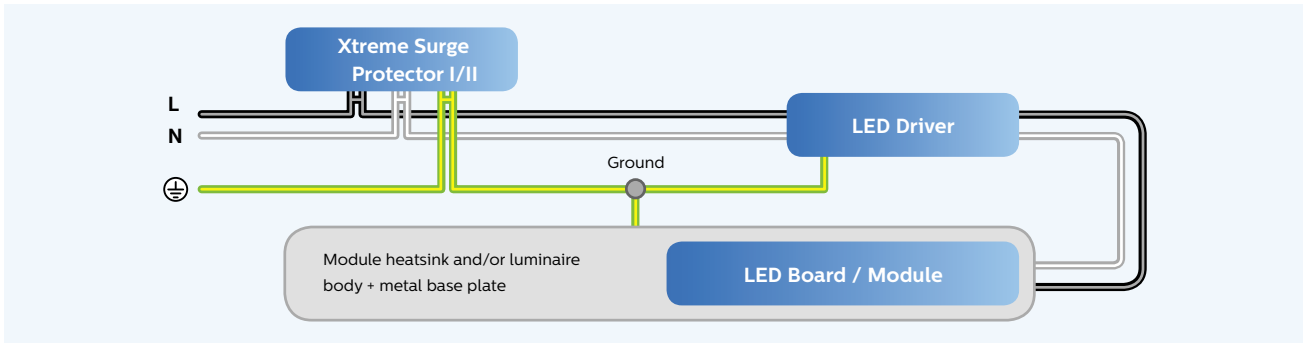


Specification item	Value	Unit
Mounting length	70	mm
Overall length	90	mm
Case Width	45	mm
Case Height	37.5	mm
Fixing hole diameter	M4	
Fixing screw type	M8	
Max. screw torque	0.8	Nm
Weight	70	gr

Wiring

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

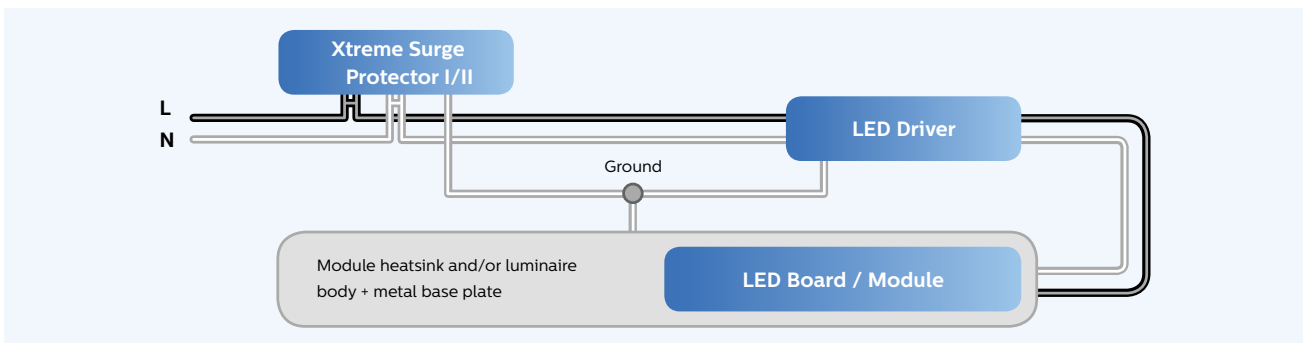
Wiring diagram Insulation Class I application



Connectors Class I

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

Wiring diagram Insulation Class II application



Connectors Class II

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



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Data subject to change.

Date of release: 09/2014

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