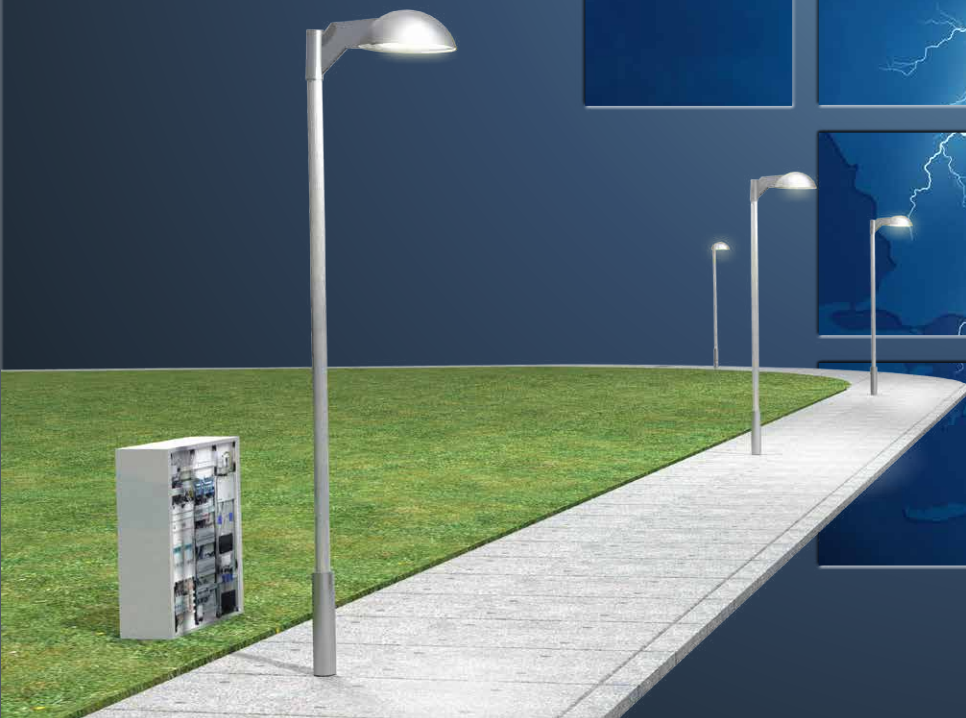




CITEL

■■■ Reliability in Surge Protection ■■■

Surge protector for LED lighting



LED Lighting systems

Installation of Surge Protectors

MSB6



MLP



MLPC1



Or

DS134R-230/G



DLA



DS240-230/G



DSLPL



Surge protectors for LED outdoor lighting

LED street lighting is now widely used for its efficiency, its energy cost savings and its life expectancy. Nevertheless this attractive technology has an important weakness: its sensitivity to transient voltages created by lightning or by power switch operations on AC network.

Due to its scattered and over-exposed location, LED lighting system will face induced surges which will create failure of its power supply, damage LED components or loss of the lighting efficiency. For these reasons, the use of relevant surge protectors located upstream the LED lighting systems is highly recommended.

CITEL provides a complete of surge protectors to be installed at different locations of the outdoor lighting network, such as the luminaires, the street lighting pole box and the street cabinets.

CITEL offers solutions adapted to every type of outdoor LED lighting systems : urban, architectural, tunnels etc...



Street lighting



Tunnel lighting



Architectural outdoor lighting

MLP/MLPC range



MLP range is a complete range of AC surge protectors specifically designed by CITEL for the protection of LED lighting systems at the lantern.

Many versions have been proposed to meet the various existing configurations : surge protection devices are available in different isolation classes (Class 1, Class 2) and connection type (wire or screw terminal). Some versions are equipped with protection data line option (RS485, DALI, 0-10V) to provide a complete solution for LED systems with control lines.

MLP surge protectors are based on an effective combination of varistors and gas discharge tubes, to protect without failure, the LED systems against surge overvoltages, even at very high amplitude phenomena.

In cases of extreme aggression, the surge protector will be in a state of retirement security: according to the different versions available, an indication of the failure of the surge protector is performed by the extinction of an indicator, a AC power supply failure and / or through a remote signalisation.

- Surge protectors range for LED lighting systems
- Configurations Class I and Class II
- Compact dimensions
- IP20 and IP65 versions
- Combined Version AC / Data
- Connection wire or screw
- Maximal discharge current 10 kA
- Remote signalling (option)
- Complies with IEC 61643-11 and EN 61643-11

The MLPC range is a compact solution surge protectors to be installed in small spaces. These devices are available in 2 types of connectors (screw terminal or spring) and in two orientations wiring (input / output opposite or input / output on the same side).

In cases of extreme aggression, lightning MLPC1 will be in a state of retirement security: the indication of failure (disconnection) of the surge protector is performed by the extinction of an indicator and switching off the AC (extinction street luminaire) inform the user of the need for maintenance.

Single-phase compact surge protectors



MLPC



MLP



MSB10



MSB6

CITEL range	MLPC range	MLP range	MSB10 range	MSB6 range
Single-phase AC network	230 V	120 V-230 V	120 V-230 V	230 V
Configuration	Single-phase	Single-phase	Single-phase	Single-phase
Insulation class	Class 1	Class 1 - Class 2	Class 1	Class 1
Nominal discharge current	5 kA	5 kA	5 kA	3 kA
Maximal discharge current	10 kA	10 kA	10 kA	6 kA
Connection	Screw terminal / Wire	Screw terminal / Wire	Screw terminal / Wire	Wire
Mounting	Plate	Plate	Plate	Terminal
Dimensions	40x69x17 mm	49x70x30 mm	40x60x22 mm	36x26x12 mm
End of life	- Indicator Off - AC Network Off - SPD disconnection	- Indicator Off - AC Network Off (option) - SPD disconnection	- Indicator Off - SPD disconnection	- Buzzer ON - SPD disconnection
Remote signalling	No	Yes (Option)	No	No
Data line protection	No	Option : DALI, RS485, 0-10V	No	No

Din rail single-phase surge protectors



DS240-230/G



DSL1-230L

CITEL range	DS240-230/G	DSL1-230L
Single-phase network *	230 V	230 V
SPD type	Type 2	Type 2
Nominal discharge current	20 kA	5 kA
Maximal discharge current	40 kA	10 kA
Connection	Screw terminal 10mm ² max	Screw terminal 2,5mm ² max
Mounting	DIN Rail	DIN Rail
End of life	- Indicator On - SPD disconnection	- Indicator On - AC Network Off (option) - SPD disconnection
Remote signalling	Yes (Option)	No
Dimensions (width)	18 mm	18 mm

* Available 120V network : DS240-120/G, DS98-120

Din Rail 3-phase + Neutral Surge Protectors



DS134R-230/G



DS44-230/G



DS440-230/G

CITEL range	DS134R-230/G	DS44-230/G	DS440-230/G
3-phase + Neutral Network	230/400 V	230/400 V	230/400 V
SPD type	Type 1	Type 2	Type 2
Nominal discharge current	20 kA	20 kA	20 kA
Maximum lightning current 10/350µs	12.5 kA	-	-
Maximal discharge current	50 kA	40 kA	40 kA
Connection	Screw terminal 25 mm ² max	Screw terminal 25 mm ² max	Screw terminal 10 mm ² max
Mounting	DIN Rail	DIN Rail	DIN Rail
End of life	- Indicator On - SPD disconnection	- Indicator On - SPD disconnection	- Indicator On - SPD disconnection
Remote signalling	Yes (Option)	Yes (Option)	Yes (Option)
Dimensions (width)	72 mm	72 mm	36 mm

* Available 120 Vac network : DS134R-120/G, DS44-120/G, DS440-120/G

Data network surge protectors



DLA-12D3

CITEL range	DLA range
Typical application	DALI, RS485, 0-10 V, DMX
Configuration	1 pair + shield
Nominal line voltage	12 V, 24 V
Max. line current	300 mA
Nominal discharge current	5 kA
Maximal discharge current	20 kA
Mounting	Rail DIN



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