

SOLUTION

CCTV and IPTV cameras

Surge protection of camera systems



Why to Protect?

Today, the camera systems represent common security and monitoring devices in various application areas, for example office and commercial buildings, residential buildings, parking places, public areas, sport arenas, monitoring of traffic, toll collection, and more.

All the systems, which include sensitive electronic components, are interconnected by cabling, which provides not only power supply for the systems but also data transmission of the information being monitored among the elements and the control system. Each electric installation is exposed to the lightning electromagnetic pulses (LEMP) from direct or indirect stroke of lightning, or switching electromagnetic pulses (SEMP) invoked by various switching actions (e.g. switched power sources, switching the induction load on and off, operation of electric motors, fluorescent lamps, fridges, and more).

Action of the overvoltage impulses causes stress and impacts on the integrated circuits of the camera system, and other electric devices, if any, connected in the same grid, which rapidly reduces their lifecycle and reliability. Therefore, surge protection is recommended against the harmful effects of these phenomena that limit the effect of overvoltage to minimum.

What to Protect?

- Low-voltage and back-up power supply
- Ethernet lines for IPTV cameras and data transmission
- Coaxial video lines for CCTV cameras

An example of installation of SPDs in the camera system



Recommended SPDs for CCTV and IPTV cameras

DL-1G-RJ45-PoE-AB

Two-stage surge protection for indoor and outdoor IP cameras with Ethernet Cat. 6 lines and powering via PoE in A or B mode, or communication device. Installed at entry to a facility or as closest as possible to the protected facility and higher zones.

Location	Network type	U _c line/PoE	I _L line/PoE	I _n (C2) (8/20 μs)	U _p (C3) core-core	U _p (C3) core-PE	Ordering number
ST 1+2+3	1G	8.5 / 58 V DC	0.5 / 1.5 A	0.15 kA	60 / 90 V	500 V	8595090561484

FX-090 B75T F/F

Lightning current diverter for outdoor camera with coaxial cable, installed at entry to a facility or as closest as possible to the protected facility.

Location	U _c	I _L	I _{imp} (D1) (10/350 μs)	I _n (C2) (8/20 μs)	U _p (C3)	f _{max}	Ordering number
ST 1	70 V	4 A	2.5 kA	10 kA	600 V	2 150 MHz	8595090533856

SX-090 B75 F/F

Surge protection applicable as the second protection level after FX, for cameras with coaxial cables or their recorders, installed right in front of the protected device.

Location	U _c	I _L	I _n (C2) (8/20 μs)	U _p (C3) core-PE	f _{min}	f _{max}	Ordering number
ST 2+3	29.1 V DC	4 A	1.5 kA	80 V	1 MHz	2 150 MHz	8595090533955

DP-024-V/1-F16

Surge protection for cameras with back-up power source and control via RS485 communication line, installed right next to the protected device.

Location	Number of lines	U _c	I _L	I _n (C2)	U _p (C3) core-PE	Floating	Ordering number
ST 2	1	34 V AC/DC	16 A	2 kA	750 V	Yes	8595090556657

DA-275-DF6

Surge protection, SPD type 3 with integrated interference suppression RF filter for 230 V AC power supply protection for the control units and other electronic devices, installed in the switchgear of the security system, or right next to the protected device.

Connection	Suitable networks	U _c	I _L	I _n (L+N-PE) (8/20 μs)	U _{oc} (L+N-PE)	Remote signalling	Ordering number
Symmetric	TN, TT	275 V AC	6 A	5 kA	10 kV	No	8595090557173

SP-T2+T3-320/Y-CLT-LED

Overvoltage diverter for LED lighting, SPD type 2 and 3 for protection of the LED lights or IR reflectors for night light of the camera systems.

SPD Type	Location	U _c	I _L	I _n (8/20 μs)	U _{oc} (L+N-PE)	Fault signalling	Ordering number
2 a 3	C high	320 V AC	10 A	5 kA	10 kV	Interruption	8595090560449

FLP-12,5 V/1+1

Lightning currents and overvoltage diverter, SPD type 1 and 2 for 230 V AC power protection, e.g. for outer public light posts.

Connection	Suitable networks	U _c	I _{imp} (10/350 μs)	I _n (8/20 μs)	I _{max} (8/20 μs)	Remote signalling	Ordering number
1+1	TT	275 V AC	12.5 kA	30 kA	60 kA	No	8595090534235

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