

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 any type of PoE, or communication device. Installed at entry to a facility or as close as possible to the protected device.

Location	Network type	U_c line/PoE	I_L line/PoE	I_n (C2) (8/20 μ s)	U_p (C3) core-core	U_p (C3) core-PE	Ordering number
ST 1+2+3	1 Gbps	8,5 / 58 V DC	0,5 / 2,0 A	0,15 kA	45 / 85 V	500 V	A06148

DL-10G-PoE-IP66

Two-stage SPD for the protection of Ethernet network end devices with PoE, installed within the LPZ 0 zone with IP66 protection level and intended for outdoor installation - e.g. IP cameras..

Location	Network type	U_c line/PoE	I_L line/PoE	I_n (C2) (8/20 μ s)	U_p (C3) core-core	U_p (C3) core-PE	Ordering number
ST 1+2+3	10 Gbps	8,5 / 58 V DC	0,5 / 2,0 A	0,15 kA	45 / 85 V	500 V	A07098

FX-090 B75 T F/F

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

Location	U_c	I_L	I_{imp} (D1) (10/350 μ s)	I_n (C2) (8/20 μ s)	U_p (C3)	f_{max}	Ordering number
ST 1	70 V	4 A	2,5 kA	10 kA	1 200 V	2 150 MHz	A03385

SX-090-F75 F/F

Two-stage surge protection for technologies located in the LPZ 0_B zone or as a subsequent stage behind the arresters of the FX series. Installation close to protected equipment or at the LPZ 0_B - LPZ 1 boundary.

Location	U_c	I_L	I_{imp} (D1) (10/350 μ s)	U_p (C3) core-PE	f_{min}	f_{max}	Ordering number
ST 1+2+3	26 V DC	0,7 A	0,5 kA	85 V	DC	2 300 MHz	A04158

DP-024-V/1-F16

Surge protection for cameras with separated power source line 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	A05665

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 μ s)	U_{oc} (L+N-PE)	Remote signalling	Ordering number
Symmetric	TN, TT	275 V AC	6 A	5 kA	10 kV	No	A05717

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 vision of the camera systems.

SPD Type	Location	U_c	I_L	I_n (8/20 μ s)	U_{oc} (L+N-PE)	Fault signalling	Ordering number
2 a 3	C high	320 V AC	10 A	5 kA	10 kV	Interruption	A06044

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 lamp poles.

Connection	Suitable networks	U_c	I_{imp} (10/350 μ s)	I_n (8/20 μ s)	I_{max} (8/20 μ s)	Remote signalling	Ordering number
1+1	TN, TT	275 V AC	12,5 kA	30 kA	60 kA	No	A03423

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