

SOLUTION

Electronic/Fire security/Access control systems

Surge protection of security systems



Why to Protect?

One of the optional components of the buildings is the security systems be they used in a family house, office building, shopping centre, or industrial facility. The rule of thumb is the larger the facility is, the higher risk of potential transfer or overvoltage.

You can imagine the security system (Electronic Alarms, Fire Security Systems or Access Control Systems) as a wide network of sensors, cameras, switches and other minor components where the lengths of the interconnection cables may take up to several hundreds of meters. The induced overvoltage (e.g. due to direct or indirect strike of lightning – LEMP or switching voltage – SEMP) in these long lines may result in damage of the sensors or the

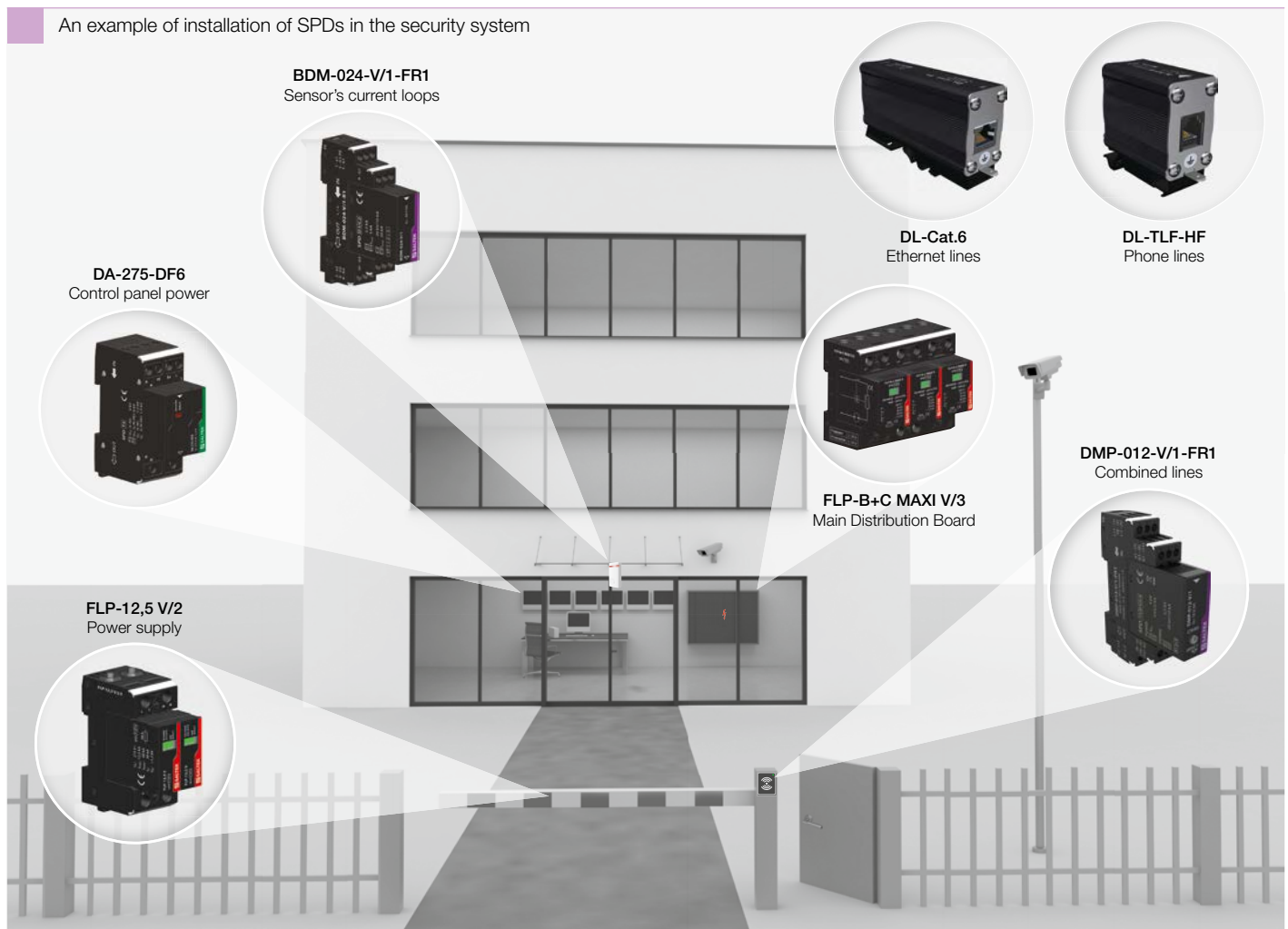
whole control unit in addition to issuing of false alarms. Use of additional SPD for the security system is the recommended preventive measure that multiplies its operational reliability and credibility.

The illustration shows an example of choosing and deploying SPD security features for an access system applicable analogously to electronic security and fire systems

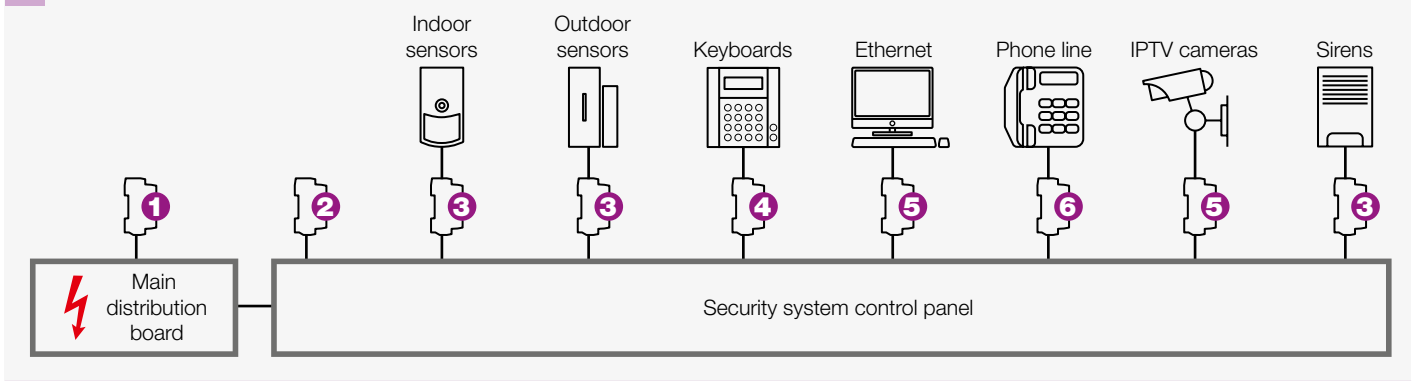
What to Protect?

- Power supply protection combined with RFI filter
- Sensor's data transmission and power supply lines
- Ethernet and IPTV networks
- Direct phone alarm lines to control panels

An example of installation of SPDs in the security system



Main components protection diagram



Recommended SPDs for security systems

BDM-024-V/1-FR1 ③

Two-stage overvoltage protection for indoor sensor circular loops (motion IR sensors, door and window magnetic sensors, glass shattering sensor, flood detector, button alarms and emergency pushbuttons, smoke and heat sensors, gas or carbon monoxide leak sensors, and more).

Location	Number of lines	U_c	I_L	$I_{imp}(D1)$	$I_n(C2)$	$U_p(C3)$ core-core	Floating	Ordering number
ST 1+2+3	1	36 V DC	1 A	2.5 kA	10 kA	46 V	Yes	8595090554264

DMP-012-V/1-FR1 ④

Surge protection for the RS485 communication line combined with power supply between the switchboard and its control component (RFID reader, keyboard, board, control panel, etc.).

Location	Number of lines	U_c	I_L	$I_n(C2)$	$U_p(C3)$ core-PE/GND	Floating	Ordering number
ST 2+3	1 two-core	16 V DC	1 A	10 kA	22 V	Yes	8595090557982

DL-Cat.6 ⑤

Surge protection for Ethernet communication line between the control unit and local network/PC/router.

Location	Number of lines	U_c	I_L	$I_n(C2)$ (8/20 μ s)	$U_p(C3)$ core-core	$U_p(C3)$ core-PE	Ordering number
ST 3	1	8.5 V DC	0.5 A	1.6 kA	65 V	350 V	8595090536031

DL-TLF-HF ⑥

Surge protection for phone line connected directly to electronic security/fire system for automatic alarm reporting.

Location	U_c	I_L	$I_n(C2)$ (8/20 μ s)	$U_p(C3)$ core-core	$U_p(C3)$ core-PE	f	Ordering number
ST 2+3	162 V DC	0.06 A	2.5 kA	240 V	400 V	45 MHz	8595090561507

FLP-B+C MAXI V/3 ①

Powerful lightning current and surge arrester, SPD type 1 and 2, basic 230 V AC power supply protection.

Connection	Suitable networks	U_c	$I_{imp}(10/350 \mu$ s)	$I_n(8/20 \mu$ s)	$I_{max}(8/20 \mu$ s)	Remote signalling	Ordering number
3+0	TN-C	275 V AC	25 kA	30 kA	60 kA	No	8595090550938

FLP-12,5 V/2

Lightning current and surge arrester, SPD type 1 and 2 for 230 V AC power supply protection e.g. power of entry/exit barriers.

Connection	Suitable networks	U_c	$I_{imp}(10/350 \mu$ s)	$I_n(8/20 \mu$ s)	$I_{max}(8/20 \mu$ s)	Remote signalling	Ordering number
2+0	TN-S	275 V AC	12.5 kA	30 kA	60 kA	No	8595090538097

DA-275-DF6 ②

Surge protection, SPD type 3 with integrated RFI filter 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	8595090557173

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