SALTEK®

Overvoltage controlled. ANYWHERE.

Surge Protective Devices

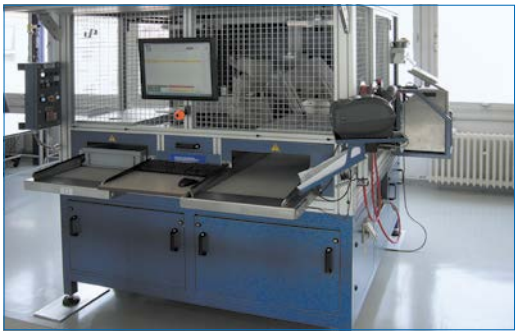
Product Overview

2017

Who we are
What we do

SALTEK® is a leading Czech based company specialising in the development and production of Surge Protective Devices. SALTEK® offers a complete range of SPDs (types 1, 2, 3 and its combinations) in areas of low-voltage power systems and installations, renewable energy, information technologies, measuring & regulation and telecommunications.

SALTEK® products provide protection against atmospheric and technological overvoltage and ensure safe and trouble-free operation of technology, machinery and electrical appliances in industry, transport, telecommunications, data centres, office buildings as well as households.



Over 20 years of success in both the Czech Republic and abroad

- We have been on the market since 1995.
- Our products protect various technologies in a lot of countries in Europe, Asia and Africa.

Our own development = foundation of permanent and dynamic company development

- Our R&D department providing continuous innovation is the foundation of our further development.
- Our experienced R&D team utilises a testing laboratory with the latest equipment featuring unique devices and technologies that support fast and high-quality development process.
- State-of-the-art materials, construction procedures and measurement methods are a essential for us.

Flexibility and speed = our basic credo

- Flexible approach to the implementation of special customised solutions and products ODM/OEM all over the world.
- Fast delivery according to customers' requests.

Customers = power engine

- Customers are our everlasting inspiration. Hands-on experience linked to technical innovation gives us the opportunity to provide solutions for complex surge protection.
- High-class and fast technical support, regular training of specialists as well as extensive marketing and sales services are our standards.

Quality + international standards = our essentials

The safety, reliability and top quality of our products come first for us! Quality is our image. We are certified in compliance with international standards:

■ EN ISO 9001 ■ EN ISO 14001 ■ OHSAS 18001

We are an active member of Czech and international standardization institutions - ÚNMZ, IEC and CENELEC, which define standards for the development of surge protection in the future.

What we do
Solutions for complex surge protection

We combine technical innovation with expertise. Thanks to our customers‘ feedback and our own development, SALTEK® products provide solutions for complex surge protection for various applications in different areas.

Industry

Commercial buildings use very sophisticated systems prone to abnormalities caused by overvoltage in the power system and signal lines. SALTEK® products minimize shut-down times of production technologies and subsequent financial losses.

- Protection of 230/400 V power system
- Protection of power system up to 1 000 V
- Protection of access security and fire alarm systems
- Protection of signal and communication lines

Buildings

Both residential and commercial buildings feature a great number of sensitive technologies and appliances. SALTEK® products considerably increase their reliability and, consequently, greatly improve the user comfort of such buildings.

- Protection of 230/400 V power system
- Protection of aerial systems
- Protection of access, security and fire alarm systems, CCTV, telecommunications lines, data networks, etc.
- Protection of technological facilities in buildings (heating, air conditioning, etc.)

Photovoltaic (PV) systems

PV systems must withstand weather conditions as they are located in highly exposed places. SALTEK® products ensure the best possible protection against temporary overvoltage to provide trouble-free operation throughout their working life. Protection of PV power plants/PV technologies for residential houses and for factories/Off grid PV technology.

- Protection of DC and AC side
- Protection of signal lines

Antennas and transmitters

Located in rather exposed places, receiving and transmitting systems must withstand harsh atmospheric conditions during their working life. SALTEK® products ensure the best possible protection of technologies against lightning strikes and induced overvoltage and thus they significantly increase operational reliability of technologies on transmission routes.

- Protection of 230/400 V power system
- Protection of aerial down conductors
- Protection of communication lines

Electric Railways

In the railway applications are the safety of the persons, prevent existence of an impermissible high touch voltage and limiting overvoltage in the system and its connected parts of the most important requirements.

- Protection against high touch voltage
- Protection of railway technological equipment

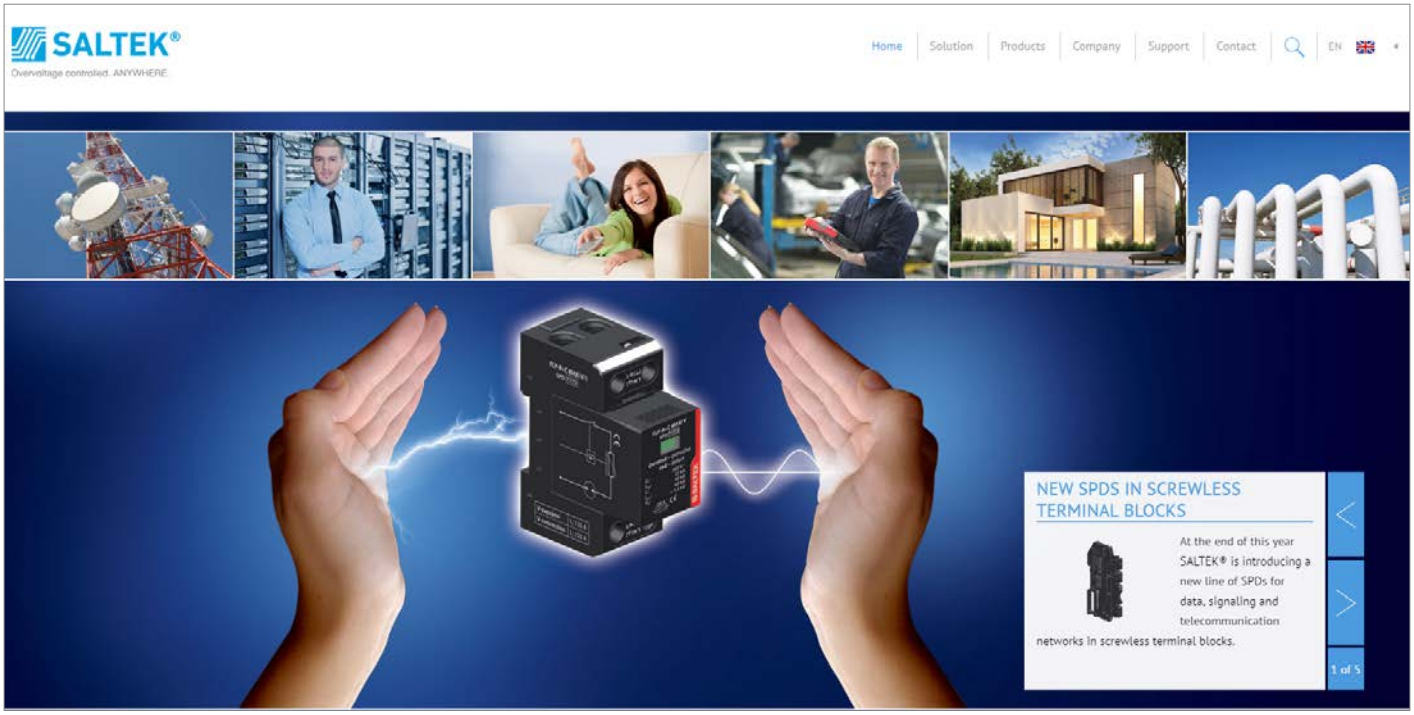
Oil and gas pipelines

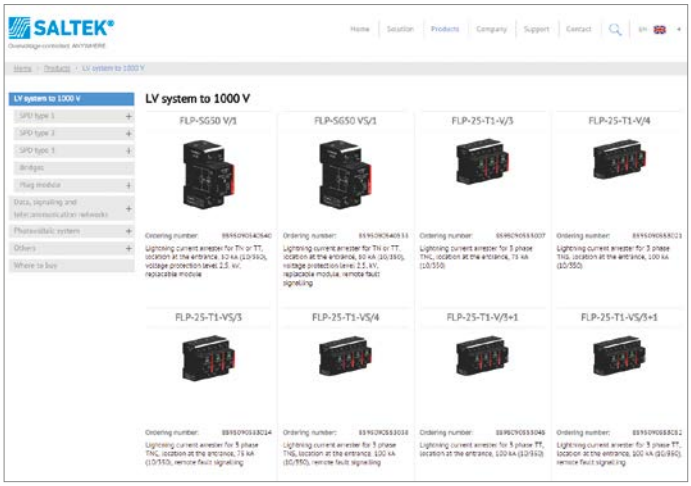
Very large systems which are exposed to undesirable effects of lightning strikes, induction from parallel lines of MV, HV or stray current near railways. These events negatively affect the technologies which are necessary for their trouble-free operation. SALTEK® products ensure the best possible protection of such technologies and significantly increase their reliability.

- Protection of 230/400 V power system and system, up to 1 000 V
- Protection of access security and fire alarm systems, signal and communication lines
- Protection of pipelines against induced voltage

SALTEK® on-line
Product information always at hand

If you do not have our Catalogue available or further printed information you would be interested in, visit www.saltek.eu/en to see a comprehensive overview of our products and on-line support.





Technical support (www.saltek.eu/en/tech-support)

For your solutions, optimization of your projects and designs of additional solutions in existing buildings/installations. We offer extensive technical support of surge protection according to EN 62305.

We are on FB! You can like it!

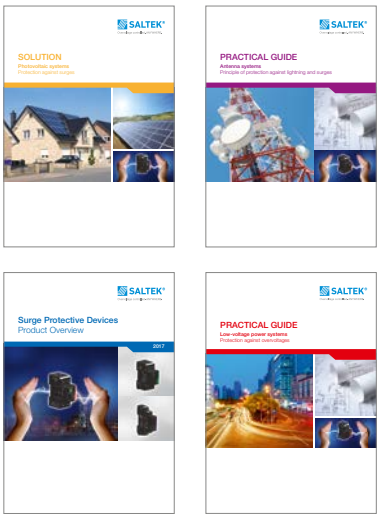
What can you find at www.saltek.eu/en?

On-line catalogue (www.saltek.eu/en/catalogue-products)

- The latest information about the SALTEK® SPDs
- Generating of the product data sheet for a specific product in PDF format for you to print out or save
- Complete technical data
- Dimension drawings and wiring
- Instruction manuals
- Declaration of conformity

Catalogues and brochures (www.saltek.eu/en/brochures)

Instruction manuals, catalogues, videos and other documents to download.



Novelties 2017

DL-...-RJ45-PoE-AB
Universal protection for Ethernet and PoE lines

- Universal two-stage surge protection of Ethernet with protection of power supply transmitted over the same lines (Power over Ethernet - PoE)
- Two variants 1G and 10G based on network speed standard
- For protection of Ethernet Cat. 6 or 6A line with PoE in Mode A or Mode B against surge voltage
- Installation at the entry to the building, close to protected equipment
- Sockets RJ45 for fast and easy connection
- Replacing products DL-1G-RJ45-POE and DL-1G-RJ45-5V

See page: 28

DL-TLF-HF
New version of SPD for phone lines

- Combination of coarse and fine surge protection
- Suitable for protection of one pair of high-speed analogue line in telecommunication equipment (e.g. VDSL2)
- RJ11 sockets for easy connection of protected line
- Universal plastic adapter for mounting on DIN rail and GND 2 holder in the scope of delivery
- Fully replaces product DL-TLF

See page: 27

DM..-RB
Surge Protection Devices in screwless terminal blocks

- SPDs with coarse and fine protection for single and two-core lines
- Suitable for industrial applications, mainly for measuring and signalling lines of I&C, electronic security and fire alarm systems
- Using of SPDs for signalling and telecommunication networks increases lifetime and no-failure operation of connected devices
- Significant space saving for multiple data lines, width 6 mm only (without cover)
- Easy wire connection, fast installation and direct grounding via DIN rail clip

See page: 25

Features of SALTEK® surge arresters

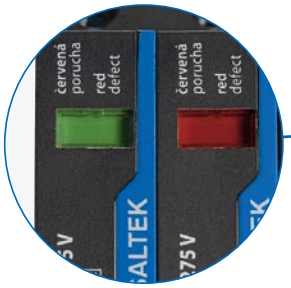
Example: SLP-275 V/3S+1

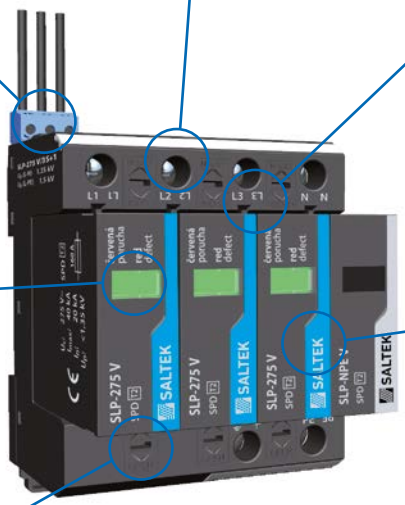
Remote signalling

Biconnect terminals

Reversible installation

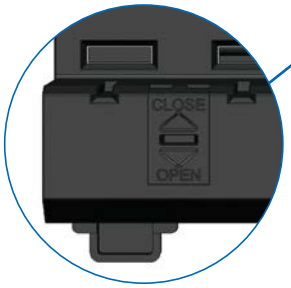
Optical lifetime status indication





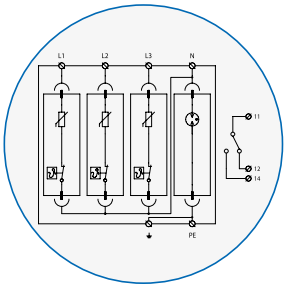
Pluggable modules

Lock system for fixing of modules



Mechanical coding

Safety thermodynamic disconnector



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Type 1 SPD and Type 1 and 2 SPD. FLP series

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Type 2 SPD. SLP series

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Type 3 SPD, e.g., DA series

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PV Type 2 SPD. SLP series for photovoltaic applications

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PV Type 1 and 2 SPD. FLP series for photovoltaic applications

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SPD for data/signal/ telecommunication networks

Module marking = easy to identify
To identify arresters in the distribution board easily, SALTEK® pluggable modules and SPDs are marked in colour so it is easy for customers to identify the type of SPD installed in their distribution board.

SALTEK

“N-PE” modules

SPDs connected to LV power supply systems up to 1 000 V

Lightning current arresters (SPD Type 1), spark-gap based

A high-performance spark gap specified for using in LV installations at the boundary of the LPZ 0 and LPZ 1 zones. Surge protection in direct as well as indirect lightning strikes in the hardest application in heavy, chemical and energy industry. Coordination with SPD Type 2 (SLP-275 V) without coupling impedances.

FLP-SG50 V(S)/1

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)
- $U_p \leq 2{,}5$ kV

Type	Connection	Suitable networks	U_c	I_{imp} (10/350 µs)	I_n (8/20 µs)	I_{fi}	Remote signalling	Ordering number
FLP-SG50 V/1	1+0	TN, TT	255 V AC	50 kA	50 kA	50 kA	No	8595090540540
FLP-SG50 VS/1	1+0	TN, TT	255 V AC	50 kA	50 kA	50 kA	Yes	8595090540533

Lightning current arresters (SPD Type 1), serial combination MOV+GDT

Very high-performance lightning current arresters for LV installations at the boundary of the LPZ 0 and LPZ 1 zones or higher. For protection in direct as well as indirect lightning strikes. For using in a variety of installations, for family houses, office and industrial buildings, or in sub-distribution boards of large buildings. Coordination with SPD Type 2 (SLP-275 V) without coupling impedances. No leakage current. No follow-on current.

FLP-25-T1-V(S)/…

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)
- $U_p \leq 1{,}5$ kV

Type	Connection	Suitable networks	U_c	I_{imp} (10/350 µs)	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
FLP-25-T1-V/3	3+0	TN-C	275 V AC	25 kA	30 kA	60 kA	No	8595090553007
FLP-25-T1-VS/3	3+0	TN-C	275 V AC	25 kA	30 kA	60 kA	Yes	8595090553014
FLP-25-T1-V/3+1	3+1	TT	275 V AC	25 kA	30 kA	60 kA	No	8595090553045
FLP-25-T1-VS/3+1	3+1	TT	275 V AC	25 kA	30 kA	60 kA	Yes	8595090553052
FLP-25-T1-V/4	4+0	TN-S	275 V AC	25 kA	30 kA	60 kA	No	8595090553021
FLP-25-T1-VS/4	4+0	TN-S	275 V AC	25 kA	30 kA	60 kA	Yes	8595090553038

Lightning current arresters (SPD Type 1), spark-gap for N-PE

A spark gap for N-PE with a replaceable module for using in LV installations, at the boundary of the LPZ 0 and LPZ 1 zones. Surge protection in direct as well as indirect lightning strikes. ATTENTION! Only for wiring between N and PE!

FLP-A…N VS/NPE

- Pluggable module
- Module locking
- Remote signalling of module presence (S)
- $U_p \leq 1{,}5$ kV

Type	Connection	Suitable networks	U_c	I_{imp} (10/350 µs)	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
FLP-A50N VS/NPE	1+1	TT	255 V AC	50 kA	50 kA	100 kA	Yes	8595090535737
FLP-A100N VS/NPE	3+1	TT	255 V AC	100 kA	100 kA	100 kA	Yes	8595090535744

SPDs connected to LV power supply systems up to 1 000 V

Lightning current arresters and surge arresters (SPD Type 1 and 2), serial combination MOV+GDT

Very high-performance lightning current arresters for LV installations at the boundary of the LPZ 0 and LPZ 1 zones or higher. For protection in direct as well as indirect lightning strikes. For using in a variety of installations, for family houses, office and industrial buildings, or in sub-distribution boards of large builings. No leakage current. No follow-on current.

FLP-B+C MAXI V(S)/...

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)
- $U_p \leq 1{,}5$ kV

Type	Connection	Suitable networks	U_c	I_{imp} (10/350 µs)	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
FLP-B+C MAXI V/1	1+0	TN	275 V AC	25 kA	30 kA	60 kA	No	8595090550914
FLP-B+C MAXI VS/1	1+0	TN	275 V AC	25 kA	30 kA	60 kA	Yes	8595090535331
FLP-B+C MAXI V/1+1	1+1	TT	275 V AC	25 kA	30 kA	60 kA	No	8595090550952
FLP-B+C MAXI VS/1+1	1+1	TT	275 V AC	25 kA	30 kA	60 kA	Yes	8595090537830
FLP-B+C MAXI V/2	2+0	TN-S	275 V AC	25 kA	30 kA	60 kA	No	8595090550921
FLP-B+C MAXI VS/2	2+0	TN-S	275 V AC	25 kA	30 kA	60 kA	Yes	8595090537847
FLP-B+C MAXI V/3	3+0	TN-C	275 V AC	25 kA	30 kA	60 kA	No	8595090550938
FLP-B+C MAXI VS/3	3+0	TN-C	275 V AC	25 kA	30 kA	60 kA	Yes	8595090535706
FLP-B+C MAXI V/3+1	3+1	TT	275 V AC	25 kA	30 kA	60 kA	No	8595090550969
FLP-B+C MAXI VS/3+1	3+1	TT	275 V AC	25 kA	30 kA	60 kA	Yes	8595090535720
FLP-B+C MAXI V/4	4+0	TN-S	275 V AC	25 kA	30 kA	60 kA	No	8595090550945
FLP-B+C MAXI VS/4	4+0	TN-S	275 V AC	25 kA	30 kA	60 kA	Yes	8595090535713
FLP-B+C MAXI150 V/1	1+0	TN	150 V AC	25 kA	30 kA	60 kA	No	8595090558347
FLP-B+C MAXI150 VS/1	1+0	TN	150 V AC	25 kA	30 kA	60 kA	Yes	8595090558354

Lightning current arresters and surge arresters (SPD Type 1 and 2), MOV based

For LV installations at the boundary of the LPZ 0 and LPZ 1 or higher. Protection against the impact of partial lightning strike currents, induced overvoltage in lightning strikes and against switching overvoltage. It is suitable for III and IV risk class buildings, in sub-distribution boards of large buildings or the protection of air conditioners or heating cables.

FLP-12,5 V/...

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)
- $U_p \leq 1{,}5$ kV

Type	Connection	Suitable networks	U_c	I_{imp} (10/350 µs)	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
FLP-12,5 V/1	1+0	TN	275 V AC	12,5 kA	30 kA	60 kA	No	8595090534211
FLP-12,5 V/1 S	1+0	TN	275 V AC	12,5 kA	30 kA	60 kA	Yes	8595090534228
FLP-12,5 V/1+1	1+1	TT	275 V AC	12,5 kA	30 kA	60 kA	No	8595090534235
FLP-12,5 V/1S+1	1+1	TT	275 V AC	12,5 kA	30 kA	60 kA	Yes	8595090534242
FLP-12,5 V/2	2+0	TN-S	275 V AC	12,5 kA	30 kA	60 kA	No	8595090538097
FLP-12,5 V/2 S	2+0	TN-S	275 V AC	12,5 kA	30 kA	60 kA	Yes	8595090551829
FLP-12,5 V/3	3+0	TN-C	275 V AC	12,5 kA	30 kA	60 kA	No	8595090534259
FLP-12,5 V/3 S	3+0	TN-C	275 V AC	12,5 kA	30 kA	60 kA	Yes	8595090534266
FLP-12,5 V/3+1	3+1	TT	275 V AC	12,5 kA	30 kA	60 kA	No	8595090534273
FLP-12,5 V/3S+1	3+1	TT	275 V AC	12,5 kA	30 kA	60 kA	Yes	8595090534280
FLP-12,5 V/4	4+0	TN-S	275 V AC	12,5 kA	30 kA	60 kA	No	8595090534297
FLP-12,5 V/4 S	4+0	TN-S	275 V AC	12,5 kA	30 kA	60 kA	Yes	8595090534303

Surge arresters (SPD Type 2), MOV based

For LV installations, especially to sub-distribution boards. Protection of installation and devices against impact of induced surge during a lightning strike or switching surges.

SLP-… V/… (S)

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)

Type	Connection	Suitable networks	U_c	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
SLP-275 V/1	1+0	TN	275 V AC	20 kA	40 kA	No	8595090516170
SLP-275 V/1 S	1+0	TN	275 V AC	20 kA	40 kA	Yes	8595090516187
SLP-275 V/1+1	1+1	TT	275 V AC	20 kA	40 kA	No	8595090519485
SLP-275 V/1S+1	1+1	TT	275 V AC	20 kA	40 kA	Yes	8595090524915
SLP-275 V/2	2+0	TN-S	275 V AC	20 kA	40 kA	No	8595090516194
SLP-275 V/2 S	2+0	TN-S	275 V AC	20 kA	40 kA	Yes	8595090551836
SLP-275 V/3	3+0	TN-C	275 V AC	20 kA	40 kA	No	8595090517603
SLP-275 V/3 S	3+0	TN-C	275 V AC	20 kA	40 kA	Yes	8595090517610
SLP-275 V/3+1	3+1	TT	275 V AC	20 kA	40 kA	No	8595090519461
SLP-275 V/3S+1	3+1	TT	275 V AC	20 kA	40 kA	Yes	8595090520023
SLP-275 V/4	4+0	TN-S	275 V AC	20 kA	40 kA	No	8595090517221
SLP-275 V/4 S	4+0	TN-S	275 V AC	20 kA	40 kA	Yes	8595090517634
SLP-075 V/1	1+0	TN	75 V AC	15 kA	40 kA	No	8595090518150
SLP-075 V/1 S	1+0	TN	75 V AC	15 kA	40 kA	Yes	8595090518235
SLP-150 V/1	1+0	TN	150 V AC	15 kA	40 kA	No	8595090551850
SLP-150 V/1 S	1+0	TN	150 V AC	15 kA	40 kA	Yes	8595090551867
SLP-385 V/1	1+0	TN	385 V AC	20 kA	40 kA	No	8595090519553
SLP-385 V/1 S	1+0	TN	385 V AC	20 kA	40 kA	Yes	8595090527718
SLP-440 V/1	1+0	TN	440 V AC	20 kA	40 kA	No	8595090518174
SLP-440 V/1 S	1+0	TN	440 V AC	20 kA	40 kA	Yes	8595090518259
SLP-600 V/1	1+0	TN	760 V AC	15 kA	40 kA	No	8595090533016
SLP-600 V/1 S	1+0	TN	760 V AC	15 kA	40 kA	Yes	8595090533023

Surge arresters (SPD Type 2), serial combination MOV+GDT

For protection of installations and devices against the impact of induced overvoltage in lightning strikes in areas with more frequent storms and against switching overvoltage. Suitable for diesel-powered networks and networks with fluctuating voltages. For protection of measurement circuits as the first level of protection. It is also suitable for installations in communication (I&C) circuits at the boundary of the LPZ 0 and LPZ 1. No leakage current. No follow-on current.

SLP-… VB/… (S)

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)

Type	Connection	Suitable networks	U_c	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
SLP-075 VB/1	1+0	TN	75 V AC	15 kA	25 kA	No	8595090521556
SLP-075 VB/1 S	1+0	TN	75 V AC	15 kA	25 kA	Yes	8595090521563
SLP-130 VB/1	1+0	TN	130 V AC	20 kA	25 kA	No	8595090521822
SLP-130 VB/1 S	1+0	TN	130 V AC	20 kA	25 kA	Yes	8595090529965
SLP-275 VB/1	1+0	TN	275 V AC	20 kA	25 kA	No	8595090519447
SLP-275 VB/1 S	1+0	TN	275 V AC	20 kA	25 kA	Yes	8595090519454
SLP-275 VB/3+1	3+1	TN-S, TT	275 V AC	20 kA	25 kA	No	8595090533108
SLP-275 VB/3S+1	3+1	TN-S, TT	275 V AC	20 kA	25 kA	Yes	8595090533115

SPDs connected to LV power supply systems up to 1 000 V

Surge protections (SPD Type 3) on the DIN rail, parallel connection

A combination of varistor surge protection and an encapsulated spark gap connected in the 1+1 (3+1) mode. For LV installations at the boundary of the LPZ 2 and LPZ 3 zones. For protection installations and devices against the impact of induced overvoltage in lightning strikes and against switching overvoltage. Location as close as possible to the protected device.

DA-275 V/… (S)

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)
- $U_p \leq 1{,}5$ kV

Type	Connection	Suitable networks	U_c	I_n (8/20 µs)	U_{oc}	Remote signalling	Ordering number
DA-275 V/1+1	1+1	TN-S, TT	275 V AC	5 kA	10 kV	No	8595090518723
DA-275 V/1S+1	1+1	TN-S, TT	275 V AC	5 kA	10 kV	Yes	8595090519751
DA-275 V/3+1	3+1	TN-S, TT	275 V AC	5 kA	10 kV	No	8595090518488
DA-275 V/3S+1	3+1	TN-S, TT	275 V AC	5 kA	10 kV	Yes	8595090518495

Surge protections (SPD Type 3) on the DIN rail, serial connection

A surge arrester for universal use to protect all types of LV electrical and electronic devices against transient overvoltage. Location as close as possible to the protected device.

DA-275-DJ25 (S), DA-… DJ

- Symmetrical internal connection
- Visual fault signalling
- Optional remote fault signalling (S)
- $U_p \leq 1{,}5$ kV

Type	Connection	Suitable networks	U_c	I_L	I_n (L+N-PE) (8/20 µs)	U_{oc} (L+N-PE)	Remote signalling	Ordering number
DA-275-DJ25	Symmetric	TN-S, TT	275 V AC	25 A	5 kA	10 kV	No	8595090557708
DA-275-DJ25-S	Symmetric	TN-S, TT	275 V AC	25 A	5 kA	10 kV	Yes	8595090557715
DA-075 DJ	Symmetric	TN-S, TT	75 V AC	16 A	4 kA	8 kV	No	8595090533191
DA-130 DJ	Symmetric	TN-S, TT	130 V AC	16 A	5 kA	10 kV	No	8595090521891

Surge protections (SPD Type 3) for additional mounting

Surge arresters for additional mounting to devices, machines, equipment, etc. For protection of all types LV electrical and electronic devices against transient overvoltage. Location as close as possible to the protected device.

CZ-275-A, DA-275-…

- Acoustic or remote status signalling
- $U_p \leq 1{,}5$ kV

Type	Connection	Suitable networks	U_c	I_n (L+N-PE) (8/20 µs)	U_{oc} (L+N-PE)	Status signalling	Ordering number
CZ-275-A	1+1	TN, TT	275 V AC	3 kA	6 kV	Acoustic	8595090559573
DA-275 CZS	1+1	TN, TT	275 V AC	3 kA	6 kV	Remote	8595090519164
DA-275-A	Symmetric	TN, TT	275 V AC	2 kA	4 kV	Acoustic	8595090559580
DA-275-S	Symmetric	TN, TT	275 V AC	2 kA	4 kV	Remote	8595090559597

Surge protections (SPD Type 3) on the DIN rail, with RFI filter

A surge arrester with an integrated RFI filter to protect the supply of control systems such as I&C, electronic security and fire alarm systems, etc., against transient overvoltage and RF disturbance. Variants "i" with remote fault signalling by interruption of power supply. Location as close as possible to the protected device.

DA-275-DF…(-S), DA-… DF … (S)

- Visual fault signalling
- Optional remote fault signalling (S)
- Filter attenuation range ca. 150 kHz ÷ 30 MHz
- $U_p \leq 1,5$ kV

Type	Connection	Suitable networks	U_c	I_L	I_n (L+N-PE) (8/20 µs)	U_{oc} (L+N-PE)	Remote signalling	Ordering number
DA-275-DF2	Symmetric	TN, TT	275 V AC	2 A	5 kA	10 kV	No	8595090557159
DA-275-DF2-S	Symmetric	TN, TT	275 V AC	2 A	5 kA	10 kV	Yes	8595090557166
DA-275-DF6	Symmetric	TN, TT	275 V AC	6 A	5 kA	10 kV	No	8595090557173
DA-275-DF6-S	Symmetric	TN, TT	275 V AC	6 A	5 kA	10 kV	Yes	8595090557180
DA-275-DF10	Symmetric	TN, TT	275 V AC	10 A	5 kA	10 kV	No	8595090557197
DA-275-DF10-S	Symmetric	TN, TT	275 V AC	10 A	5 kA	10 kV	Yes	8595090557203
DA-275-DF16	Symmetric	TN, TT	275 V AC	16 A	5 kA	10 kV	No	8595090557210
DA-275-DF16-S	Symmetric	TN, TT	275 V AC	16 A	5 kA	10 kV	Yes	8595090557227
DA-275 DF 25	Symmetric	TN, TT	275 V AC	25 A	5 kA	10 kV	No	8595090537328
DA-400 DF 16	Symmetric	TN, TT	440 V AC	16 A	5 kA	10 kV	No	8595090515074
DA-400 DF 16 S	Symmetric	TN, TT	440 V AC	16 A	5 kA	10 kV	Yes	8595090525660
DA-275 DFI 1	Symmetric	TN, TT	275 V AC	1 A	1,5 kA	3 kV	Interruption	8595090512059
DA-275-DFi6	Symmetric	TN, TT	275 V AC	6 A	5 kA	10 kV	Interruption	8595090557234
DA-275-DFi10	Symmetric	TN, TT	275 V AC	10 A	5 kA	10 kV	Interruption	8595090557241
DA-275-DFi16	Symmetric	TN, TT	275 V AC	16 A	5 kA	10 kV	Interruption	8595090557258
DA-275 BFG	Symetrické	TN, TT	275 V AC	16 A	5 kA	10 kV	No	8595090506294

Multiple sockets with surge protection (SPD Type 3) into 19" RACK

Surge protection SPD type 3 for protection of information technology in 19" RACKs with visual fault signaling. Variants with switch or RFI filter. Earth pin socket version. Location as close as possible to the protected device.

RACK-PROTECTOR-…-1U

- Mounting height 1U
- Power supply cord 3 m, CEE 7/7 plug
- Visual fault signalling
- $U_n = 230$ V AC, $I_L = 16$ A

Type	Sockets	Switch	RFI filter	I_n (8/20 µs)	U_{oc}	U_p	Ordering number
RACK-PROTECTOR-F6-1U	6	No	Yes	5 kA	10 kV	1,5 kV	8595090558743
RACK-PROTECTOR-VF5-1U	5	Yes	Yes	5 kA	10 kV	1,5 kV	8595090558750
RACK-PROTECTOR-VX7-1U	7	Yes	No	5 kA	10 kV	1,5 kV	8595090558736
RACK-PROTECTOR-X8-1U	8	No	No	5 kA	10 kV	1,5 kV	8595090558729
RACK-PROTECTOR-EURO-X12-1U	12 EURO	No	No	3 kA	6 kV	1,6 kV	8595090559610

SPDs connected to LV power supply systems up to 1 000 V

Coordination impedance RTO-...

Coupling impedance to secure proper coordination of a SPD if the minimum distance between a Type 1 SPD and Type 2 SPD, which exceeds 10 m, is not maintained, or a Type 2 and Type 3 SPD, which exceeds 5 m.

- Surge separating inductors

Type	U_c	I_L	Resistance	Inductance	Power loss at I_L	Ordering number
RTO-16	500 V AC	16 A	5 mΩ	10 µH	1,28 W	8595090514329
RTO-35	500 V AC	35 A	2,5 mΩ	10 µH	3 W	8595090514336
RTO-63	500 V AC	63 A	2 mΩ	10 µH	8 W	8595090514343

Surge protection (SPD Type 3 and Type 2 and 3) for LED lights

SPDs mainly for drivers of LED lights. Instalation close to protected equipment into LV power circuits. Also for equipments in external part of structure with low or high exposure level (according IEEE C62.41.2). Fault signaling by supply interruption.

DA-320-LED

- For equipment in external part of building with low exposure level
- $U_p \leq 1,5$ kV

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

- For equipment in external part of building with high exposure level
- $U_p \leq 1,5$ kV

Type	SPD Type	Location	U_c	I_L	I_n (8/20 µs)	U_{OC} (L+N-PE)	Fault signalling	Ordering number
DA-320-LED	3	C low	320 V AC	5 A	3 kA	6 kV	Interruption	8595090558767
SP-T2+T3-320/Y-CLT-LED	2 a 3	C high	320 V AC	10 A	5 kA	10 kV	Interruption	8595090560449

Plug adapters with surge protection ...-OVERDRIVE ...

Plug adapters with integrated SPD Type 3 for power supply, possibly combined with fine protection of another line. Variants with RFI filter are suitable to protect all kinds of electronic equipment against transient overvoltage and RF disturbance.

- Variants with RFI filter available
- Version FAX-OVERDRIVE suitable also for ADSL
- Visual fault signalling
- $U_p \leq 1,2$ kV

Type	Protection	RFI filter	U_c	I_L	I_n (L+N-PE) (8/20 µs)	U_{OC} (L+N-PE)	Fault signalling	Ordering number
PA-OVERDRIVE X16	Power supply	No	275 V AC	16 A	3 kA	6 kV	Visual	8595090510574
PA-OVERDRIVE F16	Power supply	Yes	275 V AC	16 A	3 kA	6 kV	Visual	8595090510154
PA-OVERDRIVE F6	Power supply	Yes	275 V AC	6 A	2 kA	4 kV	Visual	8595090510581
FAX-OVERDRIVE X16	Power + phone	No	275 V AC	16 A	3 kA	6 kV	Visual	8595090510635
FAX-OVERDRIVE F16	Power + phone	Yes	275 V AC	16 A	3 kA	6 kV	Visual	8595090510642
FAX-OVERDRIVE F6	Power + phone	Yes	275 V AC	6 A	2 kA	4 kV	Visual	8595090510659
ISDN-OVERDRIVE X16	Power + ISDN	No	275 V AC	16 A	3 kA	6 kV	Visual	8595090519157
TV-OVERDRIVE X16	Power + antenna	No	275 V AC	16 A	3 kA	6 kV	Visual	8595090510598
TV-OVERDRIVE F6	Power + antenna	Yes	275 V AC	6 A	2 kA	4 kV	Visual	8595090510604
SAT-OVERDRIVE X16	Power + satellite	No	275 V AC	16 A	3 kA	6 kV	Visual	8595090517146
SAT-OVERDRIVE F6	Power + satellite	Yes	275 V AC	6 A	2 kA	4 kV	Visual	8595090518952
NET-OVERDRIVE X16	Power + Ethernet	No	275 V AC	16 A	3 kA	6 kV	Visual	8595090510611
NET-OVERDRIVE F6	Power + Ethernet	Yes	275 V AC	6 A	2 kA	4 kV	Visual	8595090510628

SALTEK® SPD applications in LV distribution systems

Type of structure	System	Main distribution board (in the structure)	Sub-distribution board (in the same structure)	End consumer
Family houses, administrative buildings, technologic units, industrial structures	3-ph. TN-C	**FLP-B+C MAXI V(S)/3** **FLP-25-T1-V(S)/3**	distance > 10 m **SLP-275 V/3 (S)**	distance > 5 m overvoltage protection to DIN rail: **DA-275 V/1(S)+1** (up to 63 A) **DA-275 V/3(S)+1** (up to 63 A) **DA-275-DJ25-(S)** (25 A) overvoltage protection to a DIN rail with a RFI filter: **DA-275-DFx-(S)** (x = 2, 6, 10, 16 A) **DA-275 DF25** for 25 A **DA-275-DFix** (x = 6, 10, 16 A) **RACK-PROTECTOR** multiple sockets to 19" stands **CZ-275-A, DA-275 CZS** **DA-275-A, DA-275-S** for additional assembly to the sockets and appliances **XX-OVERDRIVE** socket adapters
			distance > 50 m **FLP-12,5 V/3 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/3**	
		FLP-25-T1-V(S)/3	distance < 10 m **SLP-275 V/3 (S)**	
		FLP-B+C MAXI V(S)/3 **FLP-25-T1-V(S)/3 + SLP-275 V/3 (S)** (also with terminals to the equipment)	distance > 10 m **SLP-275 V/3 (S)**	
			distance > 50 m **FLP-12,5 V/3 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/3**	
	3-ph. TN-S	**FLP-B+C MAXI V(S)/4** **FLP-25-T1-V(S)/4**	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
		FLP-25-T1-V(S)/4	distance < 10 m **SLP-275 V/4 (S)**	
		FLP-B+C MAXI V(S)/4 **FLP-25-T1-V(S)/4 + SLP-275 V/4 (S)** (also with terminals to the equipment)	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
	3-ph. TN-C-S	**FLP-B+C MAXI V(S)/3** **FLP-25-T1-V(S)/3**	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
		FLP-25-T1-V(S)/3	distance < 10 m **SLP-275 V/4 (S)**	
		FLP-B+C MAXI V(S)/3 **FLP-25-T1-V(S)/3 + SLP-275 V/3 (S)** (also with terminals to the equipment)	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
Blocks of flats with 12 or more apartments (SPD located in the apart. distr. boards)	3-ph. TN-C		**FLP-12,5 V/3 (S)**	distance < 5 m place before the overvoltage protection RTO-xx (xx – rated current 16, 35 or 63 A) number acording to connection 1-phase TN-C **1x RTO-xx** 1-phase TN-S **2x RTO-xx** 3-phase TN-C **3x RTO-xx** 3-phase TN-S **4x RTO-xx**
	3-ph. TN-S		**FLP-12,5 V/4 (S)**	
	3-ph. TN-C-S	division in the apartment distr. board	**FLP-12,5 V/3 (S)**	
	1-ph. TN-C		**FLP-B+C MAXI V(S)/1**	
	1-ph. TN-S		**FLP-12,5 V/2 (S)**	
Demanding applications (structures – operations classified at the risk of explosion, chemical plants…, structures of a very high importance)	3-ph. TN-C	**3× FLP-SG50 V(S)/1** with terminals to the equipment **3× FLP-SG50 V(S)/1 + 1× SLP-275 V/3 (S)**	distance < 10 m **1× SLP-275 V/3 (S)**	
			distance > 10 m **SLP-275 V/3 (S)**	
			distance > 50 m **FLP-12,5 V/3 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/3**	
	3-ph. TN-S	**4× FLP-SG50 V(S)/1** with terminals to the equipment **4× FLP-SG50 V(S)/1 + 1× SLP-275 V/4(S)**	distance < 10 m **1× SLP-275 V/4 (S)**	
			distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
	3-ph. TN-C-S	division in the main distribution board **3× FLP-SG50 V(S)/1** with terminals to the equipment **3× FLP-SG50 V(S)/1 + 1× SLP-275 V/4(S)**	distance < 10 m **1× SLP-275 V/4 (S)**	
			distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	

SALTEK® SPD applications in LV distribution systems

Type of structure	System	Main distribution board (in the structure)	Sub-distribution board (in the same structure)	End consumer
Structures equipped with ESE (active down conductor)	3-ph. TN-C	**3x FLP-SG50 V(S)/1**	distance > 10 m **SLP-275 V/3 (S)**	distance > 5 m overvoltage protection to DIN rail: **DA-275 V/1(S)+1** (do 63 A) **DA-275 V/3(S)+1** (do 63 A) **DA-275-DJ25-(S)** (25 A) overvoltage protection to DIN rail with RFI filter: **DA-275-DFx-(S)** (x = 2, 6, 10, 16 A) **DA-275 DF25** for 25 A **DA-275-DFix** (x = 6, 10, 16 A) **RACK-PROTECTOR** multiple sockets for 19" stands **CZ-275-A, DA-275 CZS** **DA-275-A, DA-275-S** for additional mounting to sockets and appliances **XX-OVERDRIVE** socket adapters
			distance > 50 m **FLP-12,5 V/3 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/3**	
		3x FLP-SG50 V(S)/1	distance < 10 m **SLP-275 V/3 (S)**	
		also with terminals to the equipment **3x FLP-SG50 V(S)/1** + **SLP-275 V/3**(S)	distance > 10 m **SLP-275 V/3 (S)**	
			distance > 50 m **FLP-12,5 V/3 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/3**	
	3-ph. TN-S	**4x FLP-SG50 V(S)/1**	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
		4x FLP-SG50 V(S)/1	distance < 10 m **SLP-275 V/4 (S)**	
		also with terminals to the equipment **4x FLP-SG50 V(S)/1 + SLP-275 V/4 (S)**	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
	3-ph. TN-C-S	**3x FLP-SG50 V(S)/1**	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
		3x FLP-SG50 V(S)/1	distance < 10 m **SLP-275 V/4 (S)**	
		also with terminals to the equipment **3x FLP-SG50 V(S)/1 + SLP-275 V/3 (S)**	distance > 10 m **SLP-275 V/4 (S)**	
			distance > 50 m **FLP-12,5 V/4 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/4**	
Technology with 1-phase connection	1-ph. TN-C	**FLP-SG50 V(S)/1**	distance < 10 m **SLP-275 V/1 (S)**	distance < 5 m SPD back-up RTO-xx (xx – rated current 16, 35 or 63 A) number acording to connection 1-phase TN-C **1x RTO-xx** 1-phase TN-S **2x RTO-xx** 3-phase TN-C **3x RTO-xx** 3-phase TN-S **4x RTO-xx**
		with terminals to the equipment **FLP-SG50 V(S)/1 + SLP-275 V/1(S)**	distance > 10 m **SLP-275 V/1 (S)**	
			distance > 50 m **FLP-12,5 V/1 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/1**	
	1-ph. TN-S	**2× FLP-SG50 V(S)/1**	distance < 10 m **1× SLP-275 V/2 (S)**	
		with terminals to the equipment **2× FLP-SG50 V(S)/1 + 1× SLP-275 V/2 (S)**	distance > 10 m **1× SLP-275 V/2 (S)**	
			distance > 50 m **1× FLP-12,5 V/2 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/2**	
	1-ph. TN-C-S	division in the main distribution board **FLP-SG50 V(S)/1**	distance < 10 m **1× SLP-275 V/2 (S)**	
		with terminals to the equipment **FLP-SG50 V(S)/1 + SLP-275 V/1 (S)**	distance > 10 m **1× SLP-275 V/2 (S)**	
			distance > 50 m **1× FLP-12,5 V/2 (S)**	
			distance > 100 m **FLP-B+C MAXI V(S)/2**	

SPDs for photovoltaic systems

Surge arresters (SPD PV Type 2)

Surge arrester designated for installation in DC circuits of photovoltaic systems, where the separating spark-over distance is kept or without LPS.

SLP-PV... V/... (S)

- Pluggable module
- Visual fault signalling
- Module locking
- Optional remote fault signalling (S)

Type	Connection	U_{CPV}	I_n (8/20 µs)	I_{max} (8/20 µs)	U_p	Remote signalling	Ordering number
SLP-PV170 V/U	U	170 V DC	15 kA	40 kA	≤ 0,6 kV	No	8595090536628
SLP-PV170 V/U S	U	170 V DC	15 kA	40 kA	≤ 0,6 kV	Yes	8595090536635
SLP-PV500 V/U	U	510 V DC	15 kA	30 kA	≤ 2,0 kV	No	8595090536642
SLP-PV500 V/U S	U	510 V DC	15 kA	30 kA	≤ 2,0 kV	Yes	8595090536659
SLP-PV700 V/Y	Y	750 V DC	20 kA	40 kA	≤ 3,6 kV	No	8595090536680
SLP-PV700 V/Y S	Y	750 V DC	20 kA	40 kA	≤ 3,6 kV	Yes	8595090536697
SLP-PV1000 V/Y	Y	1020 V DC	15 kA	30 kA	≤ 4,0 kV	No	8595090536703
SLP-PV1000 V/Y S	Y	1020 V DC	15 kA	30 kA	≤ 4,0 kV	Yes	8595090536710
SLP-PV1500 V/Y	Y	1500 V DC	15 kA	30 kA	≤ 6,4 kV	No	8595090560364
SLP-PV1500 V/Y S	Y	1500 V DC	15 kA	30 kA	≤ 6,4 kV	Yes	8595090560371

Lightning current arresters (SPD PV Type 1 and 2)

Performance lightning current arrester designated for installation in DC circuits of photovoltaic systems.

FLP-PV... V/... (S)

- Pluggable module
- Visual signalling
- Module locking
- Optional remote signalling (S)

Type	Connection	U_{CPV}	I_{imp} (10/350 µs)	I_n (8/20 µs)	I_{max} (8/20 µs)	U_p	Remote signalling	Ordering number
FLP-PV550 V/U	U	700 V DC	25 kA	30 kA	60 kA	≤ 2,4 kV	No	8595090561453
FLP-PV550 V/U S	U	700 V DC	25 kA	30 kA	60 kA	≤ 2,4 kV	Yes	8595090561460
FLP-PV1000 V/Y	Y	1000 V DC	12,5 kA	30 kA	60 kA	≤ 3,6 kV	No	8595090540595
FLP-PV1000 VS/Y	Y	1000 V DC	12,5 kA	30 kA	60 kA	≤ 3,6 kV	Yes	8595090540588

SPDs for data / signalling / telecommunication networks Devices with pluggable module

BD-…-T-V/…-(F)16 range

Lightning current arrester. To protect two-core communication, data and other lines at the zone boundaries LPZ 0 and LPZ 1.

- Variants BD-250 for protection of telecommunication lines
- Installation at the line entry into building, close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_C	I_L	I_{imp} (D1)	I_n (C2)	U_p (C3)	Floating	Ordering number
BD-090-T-V/1-16	ST 1	1	70 V DC	16 A	2,5 kA	10 kA	550 V	No	8595090554172
BD-250-T-V/1-16	ST 1	1	180 V DC	16 A	2,5 kA	10 kA	550 V	No	8595090554189
BD-090-T-V/2-16	ST 1	2	70 V DC	16 A	2,5 kA	10 kA	550 V	No	8595090555506
BD-250-T-V/2-16	ST 1	2	180 V DC	16 A	2,5 kA	10 kA	550 V	No	8595090555513
BD-090-T-V/1-F16	ST 1	1	70 V DC	16 A	2,5 kA	10 kA	550 V	Yes	8595090555520
BD-250-T-V/1-F16	ST 1	1	180 V DC	16 A	2,5 kA	10 kA	550 V	Yes	8595090555537
BD-090-T-V/2-F16	ST 1	2	70 V DC	16 A	2,5 kA	10 kA	550 V	Yes	8595090555544
BD-250-T-V/2-F16	ST 1	2	180 V DC	16 A	2,5 kA	10 kA	550 V	Yes	8595090555551

BDM-…-V/1-(F)R… range

Lightning current arrester. It is specified for the protection of two-core communication, data and other lines and the communication interface of control I&C, electronic security and fire alarm systems, etc., at the boundaries of LPZ 0 and LPZ 1 or higher.

- Installation at the line entry into building, close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_C	I_L	I_{imp} (D1)	I_n (C2)	U_p (C3) core-core	Floating	Ordering number
BDM-006-V/1-R1	ST 1+2+3	1	8,5 V DC	1 A	2,5 kA	10 kA	12 V	No	8595090554240
BDM-012-V/1-R1	ST 1+2+3	1	16 V DC	1 A	2,5 kA	10 kA	22 V	No	8595090554257
BDM-024-V/1-R1	ST 1+2+3	1	36 V DC	1 A	2,5 kA	10 kA	46 V	No	8595090554264
BDM-048-V/1-R1	ST 1+2+3	1	51 V DC	1 A	2,5 kA	10 kA	65 V	No	8595090554271
BDM-230-V/1-R	ST 1+2+3	1	250 V DC	0,5 A	2,5 kA	10 kA	350 V	No	8595090554288
BDM-006-V/1-FR1	ST 1+2+3	1	8,5 V DC	1 A	2,5 kA	10 kA	12 V	Yes	8595090557098
BDM-012-V/1-FR1	ST 1+2+3	1	16 V DC	1 A	2,5 kA	10 kA	22 V	Yes	8595090557104
BDM-024-V/1-FR1	ST 1+2+3	1	36 V DC	1 A	2,5 kA	10 kA	46 V	Yes	8595090557111
BDM-048-V/1-FR1	ST 1+2+3	1	51 V DC	1 A	2,5 kA	10 kA	65 V	Yes	8595090557128
BDM-230-V/1-FR	ST 1+2+3	1	250 V DC	0,5 A	2,5 kA	10 kA	350 V	Yes	8595090557135

BDG-…-V/1-(F)R… range

Lightning current arrester. It is specified for the protection of two-core floating communication, data and other lines and the communication interface of control I&C, electronic security and fire alarm systems, etc., at the boundaries of LPZ 0 and LPZ 1 or higher.

- Installation at the line entry into building, close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_C	I_L	I_{imp} (D1)	I_n (C2)	U_p (C3) core-core	Floating	Ordering number
BDG-006-V/1-R1	ST 1+2+3	1	8,5 V DC	1 A	2,5 kA	10 kA	12 V	No	8595090554196
BDG-012-V/1-R1	ST 1+2+3	1	16 V DC	1 A	2,5 kA	10 kA	22 V	No	8595090554202
BDG-024-V/1-R1	ST 1+2+3	1	36 V DC	1 A	2,5 kA	10 kA	46 V	No	8595090554219
BDG-048-V/1-R1	ST 1+2+3	1	51 V DC	1 A	2,5 kA	10 kA	65 V	No	8595090554226
BDG-230-V/1-R	ST 1+2+3	1	250 V DC	0,5 A	2,5 kA	10 kA	350 V	No	8595090554233
BDG-006-V/1-FR1	ST 1+2+3	1	8,5 V DC	1 A	2,5 kA	10 kA	12 V	Yes	8595090557043
BDG-012-V/1-FR1	ST 1+2+3	1	16 V DC	1 A	2,5 kA	10 kA	22 V	Yes	8595090557050
BDG-024-V/1-FR1	ST 1+2+3	1	36 V DC	1 A	2,5 kA	10 kA	46 V	Yes	8595090557067
BDG-048-V/1-FR1	ST 1+2+3	1	51 V DC	1 A	2,5 kA	10 kA	65 V	Yes	8595090557074
BDG-230-V/1-FR	ST 1+2+3	1	250 V DC	0,5 A	2,5 kA	10 kA	350 V	Yes	8595090557081

DM-…-V/…-J(F)R… range

Combined coarse and fine protection. It is specified for the protection of single-core lines of communication, data and other lines with common neutral and protective earth against pulse overvoltage. Suitable for potential free contacts of the communication interface in I&C, electronic security and fire alarm systems, etc., at the boundaries of LPZ 1 and LPZ 2 or higher.

- Installation close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_C	I_L	I_n (C2)	U_p (C3) core-PE/ GND	Floating	Ordering number
DM-006-V/2-JR1	ST 2+3	2	8,5 V DC	1 A	10 kA	12 V	No	8595090556329
DM-006-V/2-JR2	ST 2+3	2	8,5 V DC	2 A	10 kA	12 V	No	8595090556527
DM-012-V/2-JR1	ST 2+3	2	16 V DC	1 A	10 kA	22 V	No	8595090556336
DM-012-V/2-JR2	ST 2+3	2	16 V DC	2 A	10 kA	22 V	No	8595090556534
DM-024-V/2-JR1	ST 2+3	2	36 V DC	1 A	10 kA	46 V	No	8595090556343
DM-024-V/2-JR2	ST 2+3	2	36 V DC	2 A	10 kA	46 V	No	8595090556541
DM-048-V/2-JR1	ST 2+3	2	51 V DC	1 A	10 kA	65 V	No	8595090556350
DM-048-V/2-JR2	ST 2+3	2	51 V DC	2 A	10 kA	65 V	No	8595090556558
DM-110-V/2-JR1	ST 2+3	2	120 V DC	1 A	10 kA	170 V	No	8595090556565
DM-110-V/2-JR	ST 2+3	2	120 V DC	0,5 A	10 kA	170 V	No	8595090556367
DM-006-V/2-JFR1	ST 2+3	2	8,5 V DC	1 A	10 kA	12 V	Yes	8595090556374
DM-006-V/2-JFR2	ST 2+3	2	8,5 V DC	2 A	10 kA	12 V	Yes	8595090556572
DM-012-V/2-JFR1	ST 2+3	2	16 V DC	1 A	10 kA	22 V	Yes	8595090556381
DM-012-V/2-JFR2	ST 2+3	2	16 V DC	2 A	10 kA	22 V	Yes	8595090556589
DM-024-V/2-JFR1	ST 2+3	2	36 V DC	1 A	10 kA	46 V	Yes	8595090556398
DM-024-V/2-JFR2	ST 2+3	2	36 V DC	2 A	10 kA	46 V	Yes	8595090556596
DM-048-V/2-JFR1	ST 2+3	2	51 V DC	1 A	10 kA	65 V	Yes	8595090556404
DM-048-V/2-JFR2	ST 2+3	2	51 V DC	2 A	10 kA	65 V	Yes	8595090556602
DM-110-V/2-JFR1	ST 2+3	2	120 V DC	1 A	10 kA	170 V	Yes	8595090556619
DM-110-V/2-JFR	ST 2+3	2	120 V DC	0,5 A	10 kA	170 V	Yes	8595090556411
DM-006-V/4-JR1	ST 2+3	4	8,5 V DC	1 A	10 kA	12 V	No	8595090556428
DM-012-V/4-JR1	ST 2+3	4	16 V DC	1 A	10 kA	22 V	No	8595090556435
DM-024-V/4-JR1	ST 2+3	4	36 V DC	1 A	10 kA	46 V	No	8595090556442
DM-048-V/4-JR1	ST 2+3	4	51 V DC	1 A	10 kA	65 V	No	8595090556459

Continued on page 18.

SPDs for data / signalling / telecommunication networks
Devices with pluggable module

DM-...-V/...-J(F)R... range

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-PE/ GND	Floating	Ordering number
DM-110-V/4-JR	ST 2+3	4	120 V DC	0,5 A	10 kA	170 V	No	8595090556466
DM-006-V/4-JFR1	ST 2+3	4	8,5 V DC	1 A	10 kA	12 V	Yes	8595090556473
DM-012-V/4-JFR1	ST 2+3	4	16 V DC	1 A	10 kA	22 V	Yes	8595090556480
DM-024-V/4-JFR1	ST 2+3	4	36 V DC	1 A	10 kA	46 V	Yes	8595090556497
DM-048-V/4-JFR1	ST 2+3	4	51 V DC	1 A	10 kA	65 V	Yes	8595090556503
DM-110-V/4-JFR	ST 2+3	4	120 V DC	0,5 A	10 kA	170 V	Yes	8595090556510

DM-...-V/...-R... range

Combined coarse and fine protection. For the protection of two-core lines of communication, data and other lines with common earth against pulse overvoltage. Suitable for the telecommunication lines and communication interface of I&C, electronic security and fire alarm systems, etc., RS422 and RS232 mainly.

- Installation close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-core	Floating	Ordering number
DM-006-V/1-R1	ST 2+3	1	8,5 V DC	1 A	10 kA	12 V	No	8595090554295
DM-006-V/1-R2	ST 2+3	1	8,5 V DC	2 A	10 kA	12 V	No	8595090554370
DM-012-V/1-R1	ST 2+3	1	16 V DC	1 A	10 kA	22 V	No	8595090554301
DM-012-V/1-R2	ST 2+3	1	16 V DC	2 A	10 kA	22 V	No	8595090554387
DM-024-V/1-R1	ST 2+3	1	36 V DC	1 A	10 kA	46 V	No	8595090554318
DM-024-V/1-R2	ST 2+3	1	36 V DC	2 A	10 kA	46 V	No	8595090554394
DM-048-V/1-R1	ST 2+3	1	51 V DC	1 A	10 kA	65 V	No	8595090554325
DM-048-V/1-R2	ST 2+3	1	51 V DC	2 A	10 kA	65 V	No	8595090554400
DM-060-V/1-R1	ST 2+3	1	64 V DC	1 A	10 kA	85 V	No	8595090555988
DM-060-V/1-R2	ST 2+3	1	64 V DC	2 A	10 kA	85 V	No	8595090556183
DM-110-V/1-R	ST 2+3	1	120 V DC	0,5 A	10 kA	170 V	No	8595090555995
DM-110-V/1-R1	ST 2+3	1	120 V DC	1 A	10 kA	170 V	No	8595090556190
DM-230-V/1-R	ST 2+3	1	250 V DC	0,5 A	10 kA	350 V	No	8595090556008
DM-230-V/1-R1	ST 2+3	1	250 V DC	1 A	10 kA	350 V	No	8595090556206
DM-006-V/1-FR1	ST 2+3	1	8,5 V DC	1 A	10 kA	12 V	Yes	8595090556015
DM-006-V/1-FR2	ST 2+3	1	8,5 V DC	2 A	10 kA	12 V	Yes	8595090556213
DM-012-V/1-FR1	ST 2+3	1	16 V DC	1 A	10 kA	22 V	Yes	8595090556022
DM-012-V/1-FR2	ST 2+3	1	16 V DC	2 A	10 kA	22 V	Yes	8595090556220
DM-024-V/1-FR1	ST 2+3	1	36 V DC	1 A	10 kA	46 V	Yes	8595090556039
DM-024-V/1-FR2	ST 2+3	1	36 V DC	2 A	10 kA	46 V	Yes	8595090556237
DM-048-V/1-FR1	ST 2+3	1	51 V DC	1 A	10 kA	65 V	Yes	8595090556046
DM-048-V/1-FR2	ST 2+3	1	51 V DC	2 A	10 kA	65 V	Yes	8595090556244
DM-060-V/1-FR1	ST 2+3	1	64 V DC	1 A	10 kA	85 V	Yes	8595090556053
DM-060-V/1-FR2	ST 2+3	1	64 V DC	2 A	10 kA	85 V	Yes	8595090556251
DM-110-V/1-FR	ST 2+3	1	120 V DC	0,5 A	10 kA	170 V	Yes	8595090556060
DM-110-V/1-FR1	ST 2+3	1	120 V DC	1 A	10 kA	170 V	Yes	8595090556268
DM-230-V/1-FR	ST 2+3	1	250 V DC	0,5 A	10 kA	350 V	Yes	8595090556077
DM-230-V/1-FR1	ST 2+3	1	250 V DC	1 A	10 kA	350 V	Yes	8595090556275
DM-006-V/2-R1	ST 2+3	2	8,5 V DC	1 A	10 kA	12 V	No	8595090554332
DM-012-V/2-R1	ST 2+3	2	16 V DC	1 A	10 kA	22 V	No	8595090554349
DM-024-V/2-R1	ST 2+3	2	36 V DC	1 A	10 kA	46 V	No	8595090554356
DM-048-V/2-R1	ST 2+3	2	51 V DC	1 A	10 kA	65 V	No	8595090554363
DM-060-V/2-R1	ST 2+3	2	64 V DC	1 A	10 kA	85 V	No	8595090556084
DM-110-V/2-R	ST 2+3	2	120 V DC	0,5 A	10 kA	170 V	No	8595090556091
DM-230-V/2-R	ST 2+3	2	250 V DC	0,5 A	10 kA	350 V	No	8595090556107
DM-006-V/2-FR1	ST 2+3	2	8,5 V DC	1 A	10 kA	12 V	Yes	8595090556114

Continued on page 19.

DM-…-V/…-R… range

Type	Location	Number of lines	U_C	I_L	I_n (C2)	U_p (C3) core-core	Floating	Ordering number
DM-012-V/2-FR1	ST 2+3	2	16 V DC	1 A	10 kA	22 V	Yes	8595090556121
DM-024-V/2-FR1	ST 2+3	2	36 V DC	1 A	10 kA	46 V	Yes	8595090556138
DM-048-V/2-FR1	ST 2+3	2	51 V DC	1 A	10 kA	65 V	Yes	8595090556145
DM-060-V/2-FR1	ST 2+3	2	64 V DC	1 A	10 kA	85 V	Yes	8595090556152
DM-110-V/2-FR	ST 2+3	2	120 V DC	0,5 A	10 kA	170 V	Yes	8595090556169
DM-230-V/2-FR	ST 2+3	2	250 V DC	0,5 A	10 kA	350 V	Yes	8595090556176

DMG-…-V/…-(F)R… range

Combined coarse and fine protection. For the protection of up to four-core lines of communication, data and other lines against pulse overvoltage. Suitable for the telecommunication lines and communication interface of I&C, electronic security and fire alarm systems, etc., RS485, RS422 and RS232 mainly.

- Installation close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_C	I_L	I_n (C2)	U_p (C3) core-core	Floating	Ordering number
DMG-006-V/1-R1	ST 2+3	1	8,5 V DC	1 A	10 kA	12 V	No	8595090555704
DMG-006-V/1-R2	ST 2+3	1	8,5 V DC	2 A	10 kA	12 V	No	8595090555568
DMG-012-V/1-R1	ST 2+3	1	16 V DC	1 A	10 kA	22 V	No	8595090555711
DMG-012-V/1-R2	ST 2+3	1	16 V DC	2 A	10 kA	22 V	No	8595090555575
DMG-024-V/1-R1	ST 2+3	1	36 V DC	1 A	10 kA	46 V	No	8595090555728
DMG-024-V/1-R2	ST 2+3	1	36 V DC	2 A	10 kA	46 V	No	8595090555582
DMG-048-V/1-R1	ST 2+3	1	51 V DC	1 A	10 kA	65 V	No	8595090555735
DMG-048-V/1-R2	ST 2+3	1	51 V DC	2 A	10 kA	65 V	No	8595090555599
DMG-060-V/1-R1	ST 2+3	1	64 V DC	1 A	10 kA	85 V	No	8595090555742
DMG-060-V/1-R2	ST 2+3	1	64 V DC	2 A	10 kA	85 V	No	8595090555605
DMG-110-V/1-R	ST 2+3	1	120 V DC	0,5 A	10 kA	170 V	No	8595090555759
DMG-110-V/1-R1	ST 2+3	1	120 V DC	1 A	10 kA	170 V	No	8595090555612
DMG-230-V/1-R	ST 2+3	1	250 V DC	0,5 A	10 kA	350 V	No	8595090555766
DMG-230-V/1-R1	ST 2+3	1	250 V DC	1 A	10 kA	350 V	No	8595090555629
DMG-006-V/1-FR1	ST 2+3	1	8,5 V DC	1 A	10 kA	12 V	Yes	8595090555773
DMG-006-V/1-FR2	ST 2+3	1	8,5 V DC	2 A	10 kA	12 V	Yes	8595090555636
DMG-012-V/1-FR1	ST 2+3	1	16 V DC	1 A	10 kA	22 V	Yes	8595090555780
DMG-012-V/1-FR2	ST 2+3	1	16 V DC	2 A	10 kA	22 V	Yes	8595090555643
DMG-024-V/1-FR1	ST 2+3	1	36 V DC	1 A	10 kA	46 V	Yes	8595090555797
DMG-024-V/1-FR2	ST 2+3	1	36 V DC	2 A	10 kA	46 V	Yes	8595090555650
DMG-048-V/1-FR1	ST 2+3	1	51 V DC	1 A	10 kA	65 V	Yes	8595090555803
DMG-048-V/1-FR2	ST 2+3	1	51 V DC	2 A	10 kA	65 V	Yes	8595090555667
DMG-060-V/1-FR1	ST 2+3	1	64 V DC	1 A	10 kA	85 V	Yes	8595090555810
DMG-060-V/1-FR2	ST 2+3	1	64 V DC	2 A	10 kA	85 V	Yes	8595090555674
DMG-110-V/1-FR1	ST 2+3	1	120 V DC	0,5 A	10 kA	170 V	Yes	8595090555681
DMG-110-V/1-FR	ST 2+3	1	120 V DC	1 A	10 kA	170 V	Yes	8595090555827
DMG-230-V/1-FR1	ST 2+3	1	250 V DC	0,5 A	10 kA	350 V	Yes	8595090555698
DMG-230-V/1-FR	ST 2+3	1	250 V DC	1 A	10 kA	350 V	Yes	8595090555834
DMG-006-V/2-R1	ST 2+3	2	8,5 V DC	1 A	10 kA	12 V	No	8595090555841
DMG-012-V/2-R1	ST 2+3	2	16 V DC	1 A	10 kA	22 V	No	8595090555858
DMG-024-V/2-R1	ST 2+3	2	36 V DC	1 A	10 kA	46 V	No	8595090555865
DMG-048-V/2-R1	ST 2+3	2	51 V DC	1 A	10 kA	65 V	No	8595090555872
DMG-060-V/2-R1	ST 2+3	2	64 V DC	1 A	10 kA	85 V	No	8595090555889
DMG-110-V/2-R	ST 2+3	2	120 V DC	0,5 A	10 kA	170 V	No	8595090555896
DMG-230-V/2-R	ST 2+3	2	250 V DC	0,5 A	10 kA	350 V	No	8595090555902
DMG-006-V/2-FR1	ST 2+3	2	8,5 V DC	1 A	10 kA	12 V	Yes	8595090555919
DMG-012-V/2-FR1	ST 2+3	2	16 V DC	1 A	10 kA	22 V	Yes	8595090555926

Continued on page 20.

SPDs for data / signalling / telecommunication networks
Devices with pluggable module

DMG-...-V/...-(F)R... range

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-core	Floating	Ordering number
DMG-024-V/2-FR1	ST 2+3	2	36 V DC	1 A	10 kA	46 V	Yes	8595090555933
DMG-048-V/2-FR1	ST 2+3	2	51 V DC	1 A	10 kA	65 V	Yes	8595090555940
DMG-060-V/2-FR1	ST 2+3	2	64 V DC	1 A	10 kA	85 V	Yes	8595090555957
DMG-110-V/2-FR	ST 2+3	2	120 V DC	0,5 A	10 kA	170 V	Yes	8595090555964
DMG-230-V/2-FR	ST 2+3	2	250 V DC	0,5 A	10 kA	350 V	Yes	8595090555971
DMG-006-V/1-4R1	ST 2+3	4 (2x2)	8,5 V DC	1 A	10 kA	12 V	No	8595090554417
DMG-012-V/1-4R1	ST 2+3	4 (2x2)	16 V DC	1 A	10 kA	22 V	No	8595090554424
DMG-024-V/1-4R1	ST 2+3	4 (2x2)	36 V DC	1 A	10 kA	46 V	No	8595090554431
DMG-048-V/1-4R1	ST 2+3	4 (2x2)	51 V DC	1 A	10 kA	65 V	No	8595090554448
DMG-006-V/1-4FR1	ST 2+3	4 (2x2)	8,5 V DC	1 A	10 kA	12 V	Yes	8595090556282
DMG-012-V/1-4FR1	ST 2+3	4 (2x2)	16 V DC	1 A	10 kA	22 V	Yes	8595090556299
DMG-024-V/1-4FR1	ST 2+3	4 (2x2)	36 V DC	1 A	10 kA	46 V	Yes	8595090556305
DMG-048-V/1-4FR1	ST 2+3	4 (2x2)	51 V DC	1 A	10 kA	65 V	Yes	8595090556312

DMHF-...-V/1-(F)R1 range

Combined coarse and fine protection for industrial interfaces. For the protection of high-speed two-/four-core signal lines against pulse overvoltage. Suitable for the communication interface of I&C, electronic security and fire alarm systems, etc., RS485 and PROFIBUS mainly.

- Suitable for high-speed signalling lines
- Installation close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-PE/ GND	Floating	Ordering number
DMHF-006-V/1-R1	ST 2+3	1	8,5 V DC	1 A	10 kA	12 V	No	8595090557920
DMHF-024-V/1-R1	ST 2+3	1	36 V DC	1 A	10 kA	46 V	No	8595090557937
DMHF-006-V/1-4R1	ST 2+3	1 four-core	8,5 V DC	1 A	10 kA	12 V	No	8595090554455
DMHF-024-V/1-4R1	ST 2+3	1 four-core	36 V DC	1 A	10 kA	46 V	No	8595090554462
DMHF-006-V/1-FR1	ST 2+3	1	8,5 V DC	2 A	10 kA	12 V	Yes	8595090557944
DMHF-024-V/1-FR1	ST 2+3	1	36 V DC	1 A	10 kA	46 V	Yes	8595090557951
DMHF-006-V/1-4FR1	ST 2+3	1 four-core	8,5 V DC	2 A	10 kA	12 V	Yes	8595090556626
DMHF-024-V/1-4FR1	ST 2+3	1 four-core	36 V DC	1 A	10 kA	46 V	Yes	8595090556633

DMGHF-...-V/...-(F)R... range

Combined coarse and fine protection for industrial interfaces. For the protection of high-speed two-core signal lines against pulse overvoltage. Suitable for the telecommunication lines and communication interface of I&C, electronic security and fire alarm systems, etc., RS485 and PROFIBUS mainly.

- Suitable for high-speed signalling lines
- Installation close to protected equipment
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-PE/ GND	Floating	Ordering number
DMGHF-006-V/1-R1	ST 2+3	1	8,5 V DC	1 A	10 kA	14 V	No	8595090557760
DMGHF-012-V/1-R1	ST 2+3	1	16 V DC	1 A	10 kA	24 V	No	8595090557777
DMGHF-024-V/1-R1	ST 2+3	1	24 V DC	1 A	10 kA	48 V	No	8595090557784
DMGHF-230-V/1-R	ST 2+3	1	250 V DC	0,5 A	10 kA	550 V	No	8595090557791
DMGHF-006-V/1-FR1	ST 2+3	1	8,5 V DC	1 A	10 kA	14 V	Yes	8595090557807
DMGHF-012-V/1-FR1	ST 2+3	1	16 V DC	1 A	10 kA	24 V	Yes	8595090557814
DMGHF-024-V/1-FR1	ST 2+3	1	24 V DC	1 A	10 kA	48 V	Yes	8595090557821

Continued on page 21.

DMGHF-...-V/...-(F)R... range

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-PE/ GND	Floating	Ordering number
DMGHF-230-V/1-FR	ST 2+3	1	250 V DC	0,5 A	10 kA	550 V	Yes	8595090557838
DMGHF-006-V/2-R1	ST 2+3	2	8,5 V DC	1 A	10 kA	14 V	No	8595090557845
DMGHF-012-V/2-R1	ST 2+3	2	16 V DC	1 A	10 kA	24 V	No	8595090557852
DMGHF-024-V/2-R1	ST 2+3	2	24 V DC	1 A	10 kA	48 V	No	8595090557869
DMGHF-230-V/2-R	ST 2+3	2	250 V DC	0,5 A	10 kA	550 V	No	8595090557876
DMGHF-006-V/2-FR1	ST 2+3	2	8,5 V DC	1 A	10 kA	14 V	Yes	8595090557883
DMGHF-012-V/2-FR1	ST 2+3	2	16 V DC	1 A	10 kA	24 V	Yes	8595090557890
DMGHF-024-V/2-FR1	ST 2+3	2	24 V DC	1 A	10 kA	48 V	Yes	8595090557906
DMGHF-230-V/2-FR	ST 2+3	2	250 V DC	0,5 A	10 kA	550 V	Yes	8595090557913

DMP-...-V/1-...(F)R1 range

Combined coarse and fine protection in data part and surge protection for ELV in power supply part. For protection of the communication interfaces of I&C, electronic security and fire alarm systems, etc., mainly for measuring circuits and sensors, where signal and power supply are transmitted in one cable, against surge voltage.

- For circuits where signal and power supply are transmitted in one cable
- Installation close to protected equipment
- Visual fault signalling
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-PE/ GND	Floating	Ordering number
DMP-012-V/1-R1	ST 2+3	1 two-core	16 V DC	1 A	10 kA	22 V	No	8595090557968
DMP-024-V/1-R1	ST 2+3	1 two-core	36 V DC	1 A	10 kA	46 V	No	8595090557975
DMP-012-V/1-FR1	ST 2+3	1 two-core	16 V DC	1 A	10 kA	22 V	Yes	8595090557982
DMP-024-V/1-FR1	ST 2+3	1 two-core	36 V DC	1 A	10 kA	46 V	Yes	8595090557999
DMP-012-V/1-JR1	ST 2+3	1 single-core	16 V DC	1 A	10 kA	22 V	No	8595090558002
DMP-024-V/1-JR1	ST 2+3	1 single-core	36 V DC	1 A	10 kA	46 V	No	8595090558019
DMP-012-V/1-JFR1	ST 2+3	1 single-core	16 V DC	1 A	10 kA	22 V	Yes	8595090558026
DMP-024-V/1-JFR1	ST 2+3	1 single-core	36 V DC	1 A	10 kA	46 V	Yes	8595090558033

DP-...-V/1-(F)16 range

Universal overvoltage protection specified for the protection of direct or alternating low voltage distribution against pulse overvoltage.

- Installation close to protected equipment
- Visual fault signalling
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-PE	Floating	Ordering number
DP-012-V/1-16	ST 2	1	20 V AC/DC	16 A	2 kA	110 V	No	8595090554479
DP-024-V/1-16	ST 2	1	34 V AC/DC	16 A	2 kA	150 V	No	8595090554486
DP-048-V/1-16	ST 2	1	60 V AC/DC	16 A	2 kA	200 V	No	8595090554493
DP-060-V/1-16	ST 2	1	75 V AC/DC	16 A	2 kA	210 V	No	8595090554509
DP-012-V/1-F16	ST 2	1	20 V AC/DC	16 A	2 kA	750 V	Yes	8595090556640
DP-024-V/1-F16	ST 2	1	34 V AC/DC	16 A	2 kA	750 V	Yes	8595090556657
DP-048-V/1-F16	ST 2	1	60 V AC/DC	16 A	2 kA	750 V	Yes	8595090556664
DP-060-V/1-F16	ST 2	1	75 V AC/DC	16 A	2 kA	750 V	Yes	8595090556671

SPDs for data / signalling / telecommunication networks Compact devices

BD-…-T range

Lightning current arrester. To protect two-core communication, data and other lines at the zone boundaries LPZ 0 and LPZ 1, against pulse overvoltage.

- Variant BD-250 for protection of telecommunication lines
- Installation at the line entry into building close to protected equipment
- Coarse protection between lines and protective earth

Type	Location	Number of lines	U_C	I_L	I_{imp} (D1) per core	I_n (C2) per core	U_p (C3) core-PE	Floating	Ordering number
BD-090-T	ST 1	1	70 V DC	1,6 A	2,5 kA	10 kA	550 V	Yes	8595090558217
BD-250-T	ST 1	1	180 V DC	1,6 A	2,5 kA	10 kA	550 V	Yes	8595090558224

DM-…/1 … DJ range

Combined coarse and fine protection. For the protection of up to four-core communication, data and other lines with common earth, against pulse overvoltage. Suitable for the communication interface of I&C, electronic security and fire alarm systems.

- Installation close to protected equipment
- Variants with resistive (R) or inductive (L) coupling impedance
- In "F" version is the line separated from protective earth via GDT

Type	Location	Number of lines	U_C	I_L	I_n (C2)	U_p (C3) core-PE	Floating	Ordering number
DM-006/1 R DJ	ST 2+3	1	8,1 V DC	0,06 A	10 kA	20 V	No	8595090509301
DM-012/1 R DJ	ST 2+3	1	14,5 V DC	0,06 A	10 kA	35 V	No	8595090509318
DM-024/1 R DJ	ST 2+3	1	29,1 V DC	0,06 A	10 kA	50 V	No	8595090509325
DM-048/1 R DJ	ST 2+3	1	50,2 V DC	0,06 A	10 kA	80 V	No	8595090509332
DM-006/1 L DJ	ST 2+3	1	8,1 V DC	0,37 A	10 kA	20 V	No	8595090515579
DM-012/1 L DJ	ST 2+3	1	14,5 V DC	0,37 A	10 kA	35 V	No	8595090513520
DM-024/1 L DJ	ST 2+3	1	29,1 V DC	0,37 A	10 kA	50 V	No	8595090512370
DM-048/1 L DJ	ST 2+3	1	50,2 V DC	0,37 A	10 kA	80 V	No	8595090513537
DM-006/1 L2 DJ	ST 2+3	1	8,1 V DC	2 A	10 kA	20 V	No	8595090513322
DM-012/1 L2 DJ	ST 2+3	1	14,5 V DC	2 A	10 kA	35 V	No	8595090513315
DM-024/1 L2 DJ	ST 2+3	1	29,1 V DC	2 A	10 kA	50 V	No	8595090513339
DM-048/1 L2 DJ	ST 2+3	1	50,2 V DC	2 A	10 kA	80 V	No	8595090513346
DM-006/1 3R DJ	ST 2+3	1 three-core	8,1 V DC	0,06 A	10 kA	350 V	Yes	8595090513506
DM-012/1 3R DJ	ST 2+3	1 three-core	14,5 V DC	0,06 A	10 kA	350 V	Yes	8595090513490
DM-024/1 3R DJ	ST 2+3	1 three-core	29,1 V DC	0,06 A	10 kA	350 V	Yes	8595090512349
DM-048/1 3R DJ	ST 2+3	1 three-core	50,2 V DC	0,06 A	10 kA	350 V	Yes	8595090513483
DM-006/1 3L DJ	ST 2+3	1 three-core	8,1 V DC	0,37 A	10 kA	350 V	Yes	8595090514022
DM-012/1 3L DJ	ST 2+3	1 three-core	14,5 V DC	0,37 A	10 kA	350 V	Yes	8595090520948
DM-024/1 3L DJ	ST 2+3	1 three-core	29,1 V DC	0,37 A	10 kA	350 V	Yes	8595090515197
DM-048/1 3L DJ	ST 2+3	1 three-core	50,2 V DC	0,37 A	10 kA	350 V	Yes	8595090516484
DM-006/1 4R DJ	ST 2+3	1 four-core	8,1 V DC	0,06 A	10 kA	350 V	Yes	8595090516750
DM-012/1 4R DJ	ST 2+3	1 four-core	14,5 V DC	0,06 A	10 kA	350 V	Yes	8595090516897
DM-024/1 4R DJ	ST 2+3	1 four-core	29,1 V DC	0,06 A	10 kA	350 V	Yes	8595090513575
DM-048/1 4R DJ	ST 2+3	1 four-core	50,2 V DC	0,06 A	10 kA	350 V	Yes	8595090519775

DM-PROFIBUS ... range

Combined coarse and fine overvoltage protection. It is specified for the protection of signal lines and communication interfaces of high-speed industrial bus PROFIBUS. Cable shielding is also protected. NOTE: For a two-core bus-bar with shielded common conductor (COM), the shielding is connected simultaneously to the COM and SH terminals.

- Installation close to protected equipment
- Line separated from protective earth via GDT

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-COM	Floating	Ordering number
DM-PROFIBUS 5 V	ST 2+3	1 three-core	8,1 V DC	0,06 A	10 kA	150 V	Yes	8595090515319
DM-PROFIBUS 24 V	ST 2+3	1 three-core	29,1 V DC	0,06 A	10 kA	300 V	Yes	8595090516736

DMS-... range

Special coarse and fine overvoltage protection with resistance to incoming AC voltage and current limiting. For protection of communication interface, mainly the measuring loops of I&C, electronic security and fire alarm systems, etc., against transient overvoltage where are long parallel lines with power network.

- Installation close to protected equipment
- Line separated from protective earth via GDT

Type	Location	Number of lines	U_c	I_L	I_n (C2)	U_p (C3) core-PE	Floating	Ordering number
DMS-24	ST 2+3	1	33 V DC	0,06 A	5 kA	450 V	Yes	8595090541189
DMS-48	ST 2+3	1	56 V DC	0,06 A	5 kA	450 V	Yes	8595090555452

DP...-... range

Universal overvoltage protection specified for the protection of direct or alternating low voltage distribution against pulse overvoltage.

- Variant DPF-024 with integrated RFI filter
- Installation close to protected equipment
- Visual fault signalling

Type	Location	RFI filter	U_c	I_L	I_n (C2)	U_p (C3) core-PE	Fault signalling	Ordering number
DP-012	ST 2	No	28 V DC	16 A	2 kA	530 V	Visual	8595090521877
DP-024	ST 2	No	44 V DC	16 A	2 kA	530 V	Visual	8595090516040
DP-048	ST 2	No	90 V DC	16 A	2 kA	550 V	Visual	8595090521884
DP-060	ST 2	No	112 V DC	16 A	2 kA	550 V	Visual	8595090521907
DPF-024	ST 2	Yes	50 V DC	6 A	0,5 kA	550 V	Visual	8595090530503

SPDs for data / signalling / telecommunication networks
Terminal blocks with screw terminals

DM, DMG, DMJ, DMHF, DMLF, DS range

Surge protections for single- and two-core lines. Suitable for protection of telecommunication, measuring, signal lines and communication interfaces of I&C, electronic security and fire alarm systems, etc. against impact of surge voltage. Installation close to protected equipment.

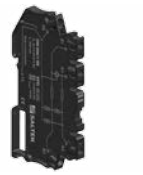
- Multiple core lines significantly save the space
- Screw terminals
- Side cover in the scope of delivery for each piece

Type	Location	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	Treshold frequency	Ordering number
DM-006/1-RS	ST 2+3	8,5 V DC	0,5 A	5 kA	18 V	30 V	1 MHz	8595090551409
DM-012/1-RS	ST 2+3	16 V DC	0,5 A	5 kA	28 V	40 V	2 MHz	8595090551416
DM-024/1-RS	ST 2+3	36 V DC	0,5 A	5 kA	50 V	65 V	4 MHz	8595090551423
DM-048/1-RS	ST 2+3	51 V DC	0,5 A	5 kA	80 V	95 V	5 MHz	8595090551430
DM-060/1-RS	ST 2+3	64 V DC	0,5 A	5 kA	100 V	120 V	6,5 MHz	8595090551294
DM-110/1-RS	ST 2+3	120 V DC	0,5 A	5 kA	210 V	230 V	10 MHz	8595090551300
DMG-006/1-RS	ST 2+3	8,5 V DC	0,5 A	5 kA	18 V	350 V	1 MHz	8595090551324
DMG-012/1-RS	ST 2+3	16 V DC	0,5 A	5 kA	28 V	350 V	2 MHz	8595090551331
DMG-024/1-RS	ST 2+3	36 V DC	0,5 A	5 kA	50 V	350 V	4 MHz	8595090551348
DMG-048/1-RS	ST 2+3	51 V DC	0,5 A	5 kA	80 V	350 V	5 MHz	8595090551355
DMG-060/1-RS	ST 2+3	64 V DC	0,5 A	5 kA	100 V	350 V	6,5 MHz	8595090551362
DMG-110/1-RS	ST 2+3	120 V DC	0,5 A	5 kA	210 V	350 V	10 MHz	8595090551379
DMJ-012/2-RS	ST 2+3	16 V DC	0,5 A	5 kA	-	40 V	2 MHz	8595090551447
DMJ-024/2-RS	ST 2+3	36 V DC	0,5 A	5 kA	-	65 V	4 MHz	8595090551454
DMJ-048/2-RS	ST 2+3	51 V DC	0,5 A	5 kA	-	95 V	5 MHz	8595090551317
DMJ-060/2-RS	ST 2+3	64 V DC	0,5 A	5 kA	-	120 V	6,5 MHz	8595090551461
DMJ-110/2-RS	ST 2+3	120 V DC	0,5 A	5 kA	-	230 V	10 MHz	8595090551478
DMHF-006/1-RS	ST 2+3	8,5 V DC	0,5 A	5 kA	26 V	350 V	70 MHz	8595090551386
DMHF-015/1-RS	ST 2+3	22 V DC	0,5 A	5 kA	36 V	350 V	70 MHz	8595090551393
DMLF-024/1-RS	ST 2	31 V DC	0,1 A	5 kA	65 V	80 V	0,07 MHz	8595090553335
DS-B090-RS	ST 2	70 V DC	16 A	10 kA	-	550 V	-	8595090551485
DS-B240-RS	ST 2	180 V DC	16 A	10 kA	-	600 V	-	8595090551492
DS-D024-RS	ST 3	29,1 V DC	16 A	0,3 kA	48 V	48 V	-	8595090551539
DS-V130-RS	ST 2	180 V DC	16 A	6 kA	530 V	530 V	-	8595090551515

SPDs for data / signalling / telecommunication networks Terminal blocks with screwless terminals

DM, DMG, DMJ, DMHF, DMLF, DS range

Surge protections for single- and two-core lines. Suitable for protection of telecommunication, measuring, signal lines and communication interfaces of I&C, electronic security and fire alarm systems, etc. against impact of surge voltage. Installation close to protected equipment.



- Multiple core lines significantly save the space
- Screwless terminals for easy connection
- Side cover in the scope of delivery for each piece

Type	Location	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	Treshold frequency	Ordering number
DM-006/1-RB	ST 2+3	8,5 V DC	0,5 A	5 kA	18 V	30 V	1 MHz	8595090560579
DM-012/1-RB	ST 2+3	16 V DC	0,5 A	5 kA	28 V	40 V	2 MHz	8595090560586
DM-024/1-RB	ST 2+3	36 V DC	0,5 A	5 kA	50 V	65 V	4 MHz	8595090560593
DM-048/1-RB	ST 2+3	51 V DC	0,5 A	5 kA	80 V	95 V	5 MHz	8595090560609
DMG-006/1-RB	ST 2+3	8,5 V DC	0,5 A	5 kA	18 V	350 V	1 MHz	8595090560616
DMG-024/1-RB	ST 2+3	36 V DC	0,5 A	5 kA	50 V	350 V	4 MHz	8595090560623
DMG-048/1-RB	ST 2+3	51 V DC	0,5 A	5 kA	80 V	350 V	5 MHz	8595090560630
DMJ-012/2-RB	ST 2+3	16 V DC	0,5 A	5 kA	-	40 V	2 MHz	8595090560654
DMJ-024/2-RB	ST 2+3	36 V DC	0,5 A	5 kA	-	65 V	4 MHz	8595090560661
DMJ-048/2-RB	ST 2+3	51 V DC	0,5 A	5 kA	-	95 V	5 MHz	8595090560678
DMHF-006/1-RB	ST 2+3	8,5 V DC	0,5 A	5 kA	26 V	350 V	70 MHz	8595090560647
DMLF-024/1-RB	ST 2	31 V DC	0,1 A	5 kA	65 V	80 V	0,07 MHz	8595090560692
DS-B090-RB	ST 2	70 V DC	10 A	10 kA	-	550 V	-	8595090560708

SPDs for data / signalling / telecommunication networks
For LSA-PLUS strips

CLSA-... range

Combination of coarse and fine protection of data, I&C and telecommunication lines against impact of surge voltage.

- For LSA-PLUS separating strips
- Accessories: comb earthing rail

Type	Location	U_c	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	Treshold frequency	Ordering number
CLSA-6	ST 2+3	8,5 V DC	0,5 A	5 kA	13 V	350 V	1,5 MHz	8595090551690
CLSA-12	ST 2+3	16 V DC	0,5 A	5 kA	21 V	350 V	2,5 MHz	8595090551706
CLSA-24	ST 2+3	36 V DC	0,5 A	5 kA	48 V	350 V	4 MHz	8595090551713
CLSA-48	ST 2+3	51 V DC	0,5 A	5 kA	65 V	350 V	6,5 MHz	8595090551720
CLSA-HF6	ST 2+3	8,5 V DC	0,5 A	5 kA	15 V	350 V	55 MHz	8595090551751
CLSA-DSL	ST 2+3	170 V DC	0,5 A	5 kA	230 V	400 V	65 MHz	8595090551768
CLSA-TLF	ST 2+3	170 V DC	0,5 A	5 kA	230 V	350 V	14 MHz	8595090551737
CLSA-ISDN	ST 2+3	120 V DC	0,5 A	5 kA	170 V	350 V	16 MHz	8595090551744

SPDs for Ethernet, phone and serial lines

Surge arresters for phone lines

Combination of coarse and fine surge protection for one pair of telecommunication lines. Suitable also for high-speed lines e.g. ISDN, ADSL or VDSL2.

DL-TLF-HF

- RJ11 connectors
- Suitable also for VDSL2 lines
- Universal plastic adapter for mounting on DIN rail in the scope of delivery

DL-ISDN …

- RJ45 connectors or terminals
- Universal plastic adapter for mounting on DIN rail in the scope of delivery

Type	Location	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	f	Ordering number
DL-TLF-HF	ST 2+3	162 V DC	0,06 A	2,5 kA	240 V	400 V	45 MHz	8595090561507
DL-ISDN SV	ST 2+3	120 V DC	0,06 A	10 kA	180 V	500 V	50 MHz	8595090533818
DL-ISDN RJ45	ST 2+3	121 V DC	0,06 A	2,5 kA	180 V	400 V	80 MHz	8595090533825

Surge arresters for Ethernet Cat. 5e

Fine surge protection suitable for Ethernet Cat. 5 or Cat. 5e lines. Installation close to protected equipment. RJ45 connectors.

DL-Cat. 5e

- RJ45 connectors
- Universal plastic adapter for mounting on DIN rail in the scope of delivery

DL-Cat. 5e … RACK PANEL

- RJ45 connectors
- For 19" RACK

Type	Location	Number of lines	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	Ordering number
DL-Cat. 5e	ST 3	1	8,5 V DC	0,5 A	1,6 kA	65 V	350 V	8595090533757
DL-Cat. 5e 8 RACK PANEL	ST 3	8	8,5 V DC	0,1 A	1,6 kA	65 V	350 V	8595090529309
DL-Cat. 5e 16 RACK PANEL	ST 3	16	8,5 V DC	0,1 A	1,6 kA	65 V	350 V	8595090529316
DL-Cat. 5e 24 RACK PANEL	ST 3	24	8,5 V DC	0,1 A	1,6 kA	65 V	350 V	8595090529323

Surge arresters for Ethernet Cat. 5e PoE

Combined coarse and fine protection of Ethernet line and the PoE part. Connection to the terminals and RJ45 connectors.

DL-100 POE-048

- Panel mounting
- Terminals/RJ45 connector

Line part

- Wires 1, 2, 3, 6

Power part (PoE)

- U_C = 76 V DC
- I_L = 1 A
- Wires 4, 5, 7, 8

DL-Cat. 5e POE plus

- Universal plastic adapter for mounting on DIN rail in the scope of delivery
- Terminals/RJ45 connector

Line part

- Wires 1, 2, 3, 6

Power part (PoE)

- U_C = 76 V DC
- I_L = 1 A
- Wires 4, 5, 7, 8

Type	Location	Number of lines	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	Ordering number
DL-100 POE-048	ST 2+3	1	8,5 V DC	0,1 A	1,5 kA	60 V	560 V	8595090531357
DL-Cat. 5e POE plus	ST 2+3	1	8,1 V DC	0,1 A	5 kA	55 V	530 V	8595090538066

SPDs for Ethernet, telecommunication and serial lines

Surge arresters for Ethernet Cat. 6

Fine protection for Ethernet Cat. 6 lines with or without power supply. Installation close to protected equipment.

DL-Cat.6…

- DL-Cat.6 for lines without power
- DL-Cat.6-60V for lines with power or IP phones
- RJ45 connectors
- Universal plastic adapter for mounting on DIN rail in the scope of delivery

DL-Cat.6 … PATCH PANEL

- Input - LSA connectors
- Output - RJ45 connectors
- For 19" RACKs

Type	Location	Number of lines	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	Ordering number
DL-Cat.6	ST 3	1	8,5 V DC	0,5 A	1,6 kA	65 V	350 V	8595090536031
DL-Cat.6-60V	ST 3	1	60 V DC	0,5 A	1,6 kA	130 V	350 V	8595090538080
DL-Cat.6 8 PATCH PANEL	ST 3	8	8,5 V DC	0,1 A	1,6 kA	65 V	350 V	8595090536048
DL-Cat.6 16 PATCH PANEL	ST 3	16	8,5 V DC	0,1 A	1,6 kA	65 V	350 V	8595090536055
DL-Cat.6 24 PATCH PANEL	ST 3	24	8,5 V DC	0,1 A	1,6 kA	65 V	350 V	8595090536062

Surge arresters for Ethernet Cat. 6(A) PoE

Combination of coarse and fine protection of single Ethernet Cat. 6 or 6A line with possibility of PoE (Power over Ethernet) Mode A, B, against surge voltage. Installation at the boundary of LPZ 0 and LPZ 1 or higher, close to protected equipment.

DL-…-RJ45-PoE-AB

- RJ45 connectors
- Universal plastic adapter for mounting on DIN rail in the scope of delivery

Type	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
DL-1G-RJ45-PoE-AB	ST 1+2+3	1G	8,5 / 58 V DC	0,5 / 1,5 A	0,15 kA	60 / 90 V	500 V	8595090561484
DL-10G-RJ45-PoE-AB	ST 1+2+3	10G	8,5 / 58 V DC	0,5 / 1,5 A	0,15 kA	60 / 90 V	500 V	8595090561491

Surge arrester for RS interface

Fine protection for protection of serial ports of computers and control systems against impact of surge voltage.

DL-RS DD9

- DSUB 9 F/M connectors

Type	Location	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-core	U_p (C3) core-PE	f	Ordering number
DL-RS DD9	ST 2+3	18 V DC	0,06 A	0,15 kA	50 V	980 V	55 MHz	8595090509684

SPDs for video and coaxial lines

Surge arresters for video circuits

Combination of coarse and fine protection for video systems, CCTV, etc. against surge voltage. Installation close to protected equipment.

VL-…

- BNC 75 Ω connectors or terminals
- Universal plastic adapter for mounting on DIN rail in the scope of delivery

Type	Location	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-SH	U_p (C3) SH-PE	f	Ordering number
VL-B75 F/F	ST 2+3	6 V AC / 8,5 V DC	0,06 A	5 kA	35 V	350 V	150 MHz	8595090533764
VL-SV	ST 2+3	6 V AC / 8,5 V DC	0,06 A	5 kA	35 V	350 V	150 MHz	8595090533795

Lightning current arresters for coaxial lines

Suitable for coaxial lines of telecommunication equipment against impact of direct or indirect lightning strike. Installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building. Suitable for the combined signal and power supply installations. FX devices can be used as the 1st level of surge for protection in coordination with the SX type.

HX-… N50 F/…

- N 50 Ω connectors
- Suitable for the combined signal and power supply installations
- f = 0 – 3,5 GHz

FX-… …75 T F/F

- BNC or N 50 Ω connectors
- Universal plastic adapter for mounting on DIN rail in the scope of delivery
- f = 0 – 2,15 GHz

Type	Location	U_C	I_L	I_{imp} (D1) (10/350 µs)	I_n (C2) (8/20 µs)	U_p (C3)	f_{max}	Ordering number
HX-090 N50 F/F	ST 1+2	70 V DC	6 A	2,5 kA	10 kA	600 V	3 500 MHz	8595090534051
HX-090 N50 F/M	ST 1+2	70 V DC	6 A	2,5 kA	10 kA	600 V	3 500 MHz	8595090533467
HX-230 N50 F/F	ST 1+2	180 V DC	6 A	2,5 kA	10 kA	650 V	3 500 MHz	8595090535119
HX-230 N50 F/M	ST 1+2	180 V DC	6 A	2,5 kA	10 kA	650 V	3 500 MHz	8595090535102
FX-090 B75 T F/F	ST 1	70 V	4 A	2,5 kA	10 kA	600 V	2 150 MHz	8595090533856
FX-230 B75 T F/F	ST 1	180 V	4 A	2,5 kA	10 kA	660 V	2 150 MHz	8595090533900
FX-090 F75 T F/F	ST 1	70 V	4 A	2,5 kA	10 kA	600 V	2 150 MHz	8595090533870
FX-230 F75 T F/F	ST 1	180 V	4 A	2,5 kA	10 kA	660 V	2 150 MHz	8595090533924

Surge arrester for coaxial lines

Fine surge protection of coaxial inputs of TV and CCTV systems against surge voltage. Suitable as the 2nd level of surge protection in coordination with the FX type. Installation close to protected equipment.

SX-090 …75 F/F

- Shielding connected to protective grounding
- BNC or F 75 Ω connectors
- Universal plastic adapter for mounting on DIN rail in the scope of delivery

Type	Location	U_C	I_L	I_n (C2) (8/20 µs)	U_p (C3) core-PE	f_{min}	f_{max}	Ordering number
SX-090 B75 F/F	ST 2+3	29,1 V DC	4 A	1,5 kA	80 V	1 MHz	2 150 MHz	8595090533955
SX-090 F75 F/F	ST 2+3	29,1 V DC	4 A	1,5 kA	80 V	1 MHz	2 150 MHz	8595090533979

SALTEK® SPD applications in data / signalling / telecommunication systems

MEASURING AND CONTROL TECHNOLOGY AND BUS SYSTEMS								
Interface / Signal		Protected lines	U (DC) (V)	Discharge current per core 10/350 µs	Discharge current per core 8/20 µs	SPD xx – corresponding voltage	For mounting on	Notes
Current loop 0 ÷ 20mA, 4 ÷ 20mA		2	12/24	x	10 kA	DM-xx/1R DJ	DIN 35	
				x	10 kA	DM-xx/1-Ry*	DIN 35	
		2	12/24	x	10 kA	DM-xx-V/1-R1	DIN 35	
		2	12/24	x	10 kA	CLSA-xx	LSA plus	disconnection
		2	12/24	5 kA	x	BDM-xx-V/1-R1	DIN 35	
		4	12/24	x	10 kA	DM-xx-V/2-R1	DIN 35	
				x	10 kA	DM-xx-V/2-FR1	DIN 35	floating ground
				x	10 kA	2ks DM-xx/1 R DJ	DIN 35	
		2	12/24	x	10 kA	DMG-xx-V/1-R1	DIN 35	isolated signal ground
		2	12/24	x	10 kA	DMG-xx/1-Ry*	DIN 35	isolated signal ground
		2	12/24	x	10 kA	DMG-xx/1R DJ	DIN 35	isolated signal ground
		2	12/24	5 kA	x	BDG-xx-V/1-R1	DIN 35	isolated signal ground
		2	24	x	10 kA	DMLF-024/1-Ry*	DIN 35	
Binary signals		2	6 ÷ 240	x	10 kA	DM-xx-V/1-R1	DIN 35	
				x	10 kA	DM-xx-V/1-FR1	DIN 35	floating ground
				x	10 kA	CLSA-xx	LSA plus	disconnection
				x	10 kA	DM-xx/1R DJ	DIN 35	
		2	6 ÷ 60	5 kA	x	BDM-xx-V/1-R1	DIN 35	
BLN Building Level Network		2	15/48	x	10 kA	DM-xx-V/1-R1	DIN 35	
				x	10 kA	DM-xx-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-xx/1R DJ	DIN 35	
TTL		2	12	x	10 kA	DM-012-V/1-R1	DIN 35	
				x	10 kA	DM-012-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-012/1R DJ	DIN 35	
		2	12	5 kA	x	BDM-012-V/1-R1	DIN 35	
RS-485 up to 1.5 Mbit/s		2	5	x	10 kA	DM-006-V/1-R1	DIN 35	
				x	10 kA	DM-006-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-006/1R DJ	DIN 35	
		3	5	x	10 kA	DM-006/3R DJ	DIN 35	
		3/4	5	x	10 kA	DMG-006-V/1-4R1	DIN 35	isolated signal ground
		3/4	5	x	10 kA	DMG-006-V/1-4FR1	DIN 35	floating ground
		4	5	x	10 kA	DM-006/4R DJ	DIN 35	
		2	5	5 kA	x	BDM-006-V/1-R1	DIN 35	
RS 485 combined with power line (e.g. security and fire alarm system)		2	12	x	10 kA	DMP-012-V/1-R1	DIN 35	
			12	x	10 kA	DMP-012-V/1-FR1	DIN 35	floating ground
			24	x	10 kA	DMP-024-V/1-R1	DIN 35	
			24	x	10 kA	DMP-024-V/1-FR1	DIN 35	floating ground
RS-422		2	5	x	10 kA	DM-006-V/1-R1	DIN 35	
				x	10 kA	DM-006-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-006/1R DJ	DIN 35	
		4	5	x	10 kA	DMG-006-V/1-4R1	DIN 35	isolated signal ground
				x	10 kA	DMG-006-V/1-4FR1	DIN 35	floating ground
				x	10 kA	DM-006/4R DJ	DIN 35	
		2	5	5 kA	x	BDM-xx-V/1-R1	DIN 35	
Analog signals	I = 0.06A	2	6 ÷ 48	x	10 kA	DM-xx/1- R DJ	DIN 35	
	I = 0.37A	2	6 ÷ 48	x	10 kA	DM-xx/1- L DJ	DIN 35	
	I = 0.5A	2	6 ÷ 48	x	10 kA	CLSA-xx	LSA plus	disconnection
			6 ÷ 110	x	10 kA	DM-xx/1-Ry*	DIN 35	
			6 ÷ 110	x	10 kA	DMG-xx/1-Ry*	DIN 35	
			24	x	10 kA	DMLF-024/1-Ry*	DIN 35	
	I = 1A	2	6 ÷ 230	x	10 kA	DM-xx-V/1-R1	DIN 35	
				x	10 kA	DM-xx-V/1-FR1	DIN 35	floating ground
				x	10 kA	DMG-xx-V/1-R1	DIN 35	isolated signal ground
				x	10 kA	DMG-xx-V/1-FR1	DIN 35	floating ground
			6 ÷ 48	5 kA	x	BDM-xx-V/1-R1	DIN 35	
				5 kA	x	BDG-xx-V/1-R1	DIN 35	isolated signal ground
				5 kA	x	BDM-xx-V/1-FR1	DIN 35	floating ground
				5 kA	x	BDG-xx-V/1-FR1	DIN 35	floating ground
	I = 2A	2	6 ÷ 48	x	10 kA	DM-xx/1- L2 DJ	DIN 35	
			6 ÷ 60	x	10 kA	DM-xx-V/1-R2	DIN 35	
				x	10 kA	DM-xx-V/1-FR2	DIN 35	floating ground
				x	10 kA	DMG-xx-V/1-R2	DIN 35	isolated signal ground
				x	10 kA	DMG-xx-V/1-FR2	DIN 35	floating ground
Multipurpose coarse protection		2	70	5 kA	x	BD-090-T-V/1-16	DIN 35	
				5 kA	x	BD-090-T-V/1-F16	DIN 35	floating ground
RS-232		2	15	x	10 kA	DM-012-V/1-R1	DIN 35	
				x	10 kA	DM-012-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-012/1R DJ	DIN 35	
		2	15	5 kA	x	BDM-012-V/1-R1	DIN 35	
Measurement of temperature Pt-100, Pt-1000 Ni-1000, NTC, PTC		2	up to 6	x	10 kA	CLSA-006	LSA plus	disconnection
				x	10 kA	DM-006-V/1-R1	DIN 35	
				x	10 kA	DM-006-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-006/1R DJ	DIN 35	
		3	up to 6	x	10 kA	DM-006/3R DJ	DIN 35	
		3/4	up to 6	x	10 kA	DMG-006-V/1-4R1	DIN 35	isolated signal ground
		3/4	up to 6	x	10 kA	DMG-006-V/1-4FR1	DIN 35	floating ground
		4	up to 6	x	10 kA	DM-006/4R DJ	DIN 35	
		2	up to 6	5 kA	x	BDM-xx-V/1-R1	DIN 35	
Optron protocol		2	6 ÷ 24	x	10 kA	DM-006-V/1-R1	DIN 35	
				x	10 kA	DM-006-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-xx/1R DJ	DIN 35	
		2	6 ÷ 60	5 kA	x	BDM-xx-V/1-R1	DIN 35	

* Ry means version of the terminal: RS - screw, RB - screwless

MEASURING AND CONTROL TECHNOLOGY AND BUS SYSTEMS

Interface / Signal		Protected lines	U (DC) (V)	Discharge current per core 10/350 µs	Discharge current per core 8/20 µs	SPD xx – corresponding voltage	For mounting on	Notes
DC power supply	I = 2 A	2	6 ÷ 60	x	10 kA	DM-xx-V/1-R2	DIN 35	
				x	10 kA	DM-xx-V/1-FR2	DIN 35	floating ground
				x	10 kA	DM-xx/1 L2 DJ	DIN 35	
	I =16 A	2	12 ÷ 60	x	2 kA	DP-xx	DIN 35	
				x	2 kA	DP-xx-V/1-16	DIN 35	
				x	2 kA	DP-xx-V/1-F16	DIN 35	floating ground
	I = 2 A	2	6 ÷ 60	x	10 kA	DMG-xx-V/1-R2	DIN 35	isolated signal ground
				x	10 kA	DMG-xx-V/1-FR2	DIN 35	floating ground
	I = 1 A	2	6 ÷ 60	5 kA	x	BDM-xx-V/1-R1	DIN 35	
						BDM-xx-V/1-FR1	DIN 35	floating ground
	I = 1 A	2	6 ÷ 60	5 kA	x	BDG-xx-V/1-R1	DIN 35	isolated signal ground
						BDG-xx-V/1-FR1	DIN 35	floating ground
	I = 6 A	2	24	x	1 kA	DPF-24	DIN 35	RFI filter
EIB		2	24	x	10 kA	DM-024-V/1-R1	DIN 35	
				x	10 kA	DM-024-V/1-FR1	DIN 35	floating ground
				x	10 kA	DM-024/1R DJ	DIN 35	
		2	24	5 kA	x	BDM-024-V/1-R1	DIN 35	
M-Bus		2	48	x	10 kA	DM-048-V/1-R1	DIN 35	
				x	10 kA	DM-048/1R DJ	DIN 35	
		2	48	5 kA	x	BDM-048-V/1-R1	DIN 35	
CAN-Bus communication max. 1.5 Mbit/s		2	6	x	10 kA	DM-006-V/1-R1	DIN 35	
				x	10 kA	DM-006/1R DJ	DIN 35	
		2	6	5 kA	x	BDM-006-V/1-R1	DIN 35	
Device Net communication 500 kbit/s	I = 2 A	2	24	x	10 kA	DM-024-V/1-R2	DIN 35	
				x	10 kA	DM-024/1 L2 DJ	DIN 35	
	I = 2 A	2	5	x	10 kA	DM-006-V/1-R2	DIN 35	
				x	10 kA	DM-006/1L2 DJ	DIN 35	
	I = 1 A	2	24	5 kA	x	BDM-024-V/1-R1	DIN 35	
			5	5 kA	x	BDM-006-V/1-R1	DIN 35	
C-Bus Honeywell communication max. 0.9 Mbit/s		2	5	x	10 kA	DM-006-V/1-R1	DIN 35	
				x	10 kA	DM-006/1R DJ	DIN 35	
		2	5	5 kA	x	BDM-006-V/1-R1	DIN 35	
Dupline		2	15	5 kA	x	BDG-012-V/1-R1	DIN 35	isolated signal ground
E-Bus (Honeywel)		2	48	5 kA	x	BDG-048-V/1-R1	DIN 35	isolated signal ground
Fieldbus Foundation		2	30	5 kA	x	BDG-048-V/1-R1	DIN 35	isolated signal ground
Genius I/O Bus		2	12	5 kA	x	BDG-012-V/1-R1	DIN 35	isolated signal ground
FIPIO/FIPWAY		2	30	5 kA	x	BDG-048-V/1-R1	DIN 35	isolated signal ground
INTERBUS INLINE		2	48	5 kA	x	BDG-048-V/1-R1	DIN 35	isolated signal ground
K-Bus		2	24	5 kA	x	BDG-024-V/1-R1	DIN 35	isolated signal ground
LUXMATE-Bus		2	24	5 kA	x	BDG-024-V/1-R1	DIN 35	isolated signal ground
Procontic CS31 (RS-232)		2	15	5 kA	x	BDM-024-V/1-R1	DIN 35	isolated signal ground
Profibus-DP/FMS high-speed lines	up to 1.5 Mbit/s	2	6	x	10 kA	DM-006-V/1-R1	DIN 35	
				x	10 kA	DM-006/1R DJ	DIN 35	
		2	6	5 kA	x	BDM-006-V/1-R1	DIN 35	
	up to 20 Mbit/s	9	18	x	150 A	DL-RS DD9	Canon	
	up to 50 Mbit/s	2	6	x	10 kA	DM-PROFIBUS 5V	DIN 35	
		2	6/15	x	10 kA	DMHF-xx/1-Ry*	DIN 35	
		3/4	6/24	x	10 kA	DMHF-xx-V/1-4R1	DIN 35	
		3/4	6/24	x	10 kA	DMHF-xx-V/1-4FR1	DIN 35	floating ground
		2	6/24	x	10 kA	DMHF-xx-V/1-R1	DIN 35	
			6/24	x	10 kA	DMHF-xx-V/1-FR1	DIN 35	floating ground
		2	6 ÷ 24	x	10 kA	DMGHF-xx-V/1-R1	DIN 35	isolated signal ground
			6 ÷ 24	x	10 kA	DMGHF-xx-V/1-FR1	DIN 35	floating ground
		2+2	6 ÷ 24	x	10 kA	DMGHF-xx-V/2-R1	DIN 35	isolated signal ground
			6 ÷ 24	x	10 kA	DMGHF-xx-V/2-FR1	DIN 35	floating ground
R-Bus		2	6	5 kA	x	BDG-006-V/1-R1	DIN 35	isolated signal ground
SDLS		2	6	x	5 kA	CLSA-6	Krone LSA+	
Securilan-LON-Bus		2	6	5 kA	x	BDG-006-V/1-R1	DIN 35	isolated signal ground
SIGMA SYS (Siemens EPS)		2	48	5 kA	x	BDG-048-V/1-R1	DIN 35	isolated signal ground
		2	48	5 kA	x	BDM-048-V/1-R1	DIN 35	
SS97 SINIS (RS-232)		2	15	5 kA	x	BDM-024-V/1-R1	DIN 35	
SUCONET		2	6	5 kA	x	BDG-006-V/1-R1	DIN 35	isolated signal ground
TELEPERM M analog input		2	12	5 kA	x	BDM-012-V/1-R1	DIN 35	
		2	24	5 kA	x	BDM-024-V/1-R1	DIN 35	
		2	12	x	5 kA	CLSA-12	Krone LSA+	
		2	24	x	5 kA	CLSA-24	Krone LSA+	
TELEPERM M binary I/O		2	48	x	10 kA	DM-048-V/1-R1	DIN 35	
				x	10 kA	DM-048/1L DJ	DIN 35	
		2	48	5 kA	x	BDM-048-V/1-R1	DIN 35	
TELEPERM M ES100K		2	12	x	10 kA	DM-012-V/1-R1	DIN 35	
				x	10 kA	DM-012/1L DJ	DIN 35	
		2	12	5 kA	x	BDM-012-V/1-R1	DIN 35	
TELEPERM MFM100		2	12	5 kA	x	BDG-012-V/1-R1	DIN 35	isolated signal ground
				5 kA	x	BDG-012-V/1-FR1	DIN 35	floating ground
TTY		2	6 ÷ 24	x	10 kA	DM-xxx-V/1-R1	DIN 35	
				x	10 kA	DM-xxx/1R DJ	DIN 35	
		2	6 ÷ 24	5 kA	x	BDM-xxx-V/1-R1	DIN 35	
Potential-free (isolated) contacts		1	6 ÷ 110	x	10 kA	DMJ-xx/2-Ry*	DIN 35	
				x	10 kA	DM-xx-V/2-JR1	DIN 35	
				x	10 kA	DM-xx-V/2-JR2	DIN 35	
				x	10 kA	DM-xx-V/2-JFR1	DIN 35	floating ground
				x	10 kA	DM-xx-V/2-JFR2	DIN 35	floating ground
				x	10 kA	DM-xx-V/4-JFR1	DIN 35	
				x	10 kA	DM-xx-V/4-JFR1	DIN 35	floating ground
Protection against power crossing of lines up to 400 V		2	24/48	x	5 kA	DMS-xx	DIN 35	

SALTEK® SPD applications in data / signalling / telecommunication systems

TELECOMMUNICATIONS, TELEPHONE SYSTEMS							
Interface / Signal	Protected lines	U (DC) (V)	Discharge current per core		SPD xx – corresponding voltage	For mounting on	Notes
			10/350 µs	8/20 µs			
ADSL analog line	2	170	x	5 kA	CLSA -TLF	LSA plus	disconnection
			x	5 kA	CLSA -DSL	LSA plus	disconnection
			x	10 kA	DL-TLF-HF	DIN 35	RJ11
			5k A	x	BDG-230-V/1-R1	DIN 35	isolated signal ground
			5 kA	x	BDG-230-V/1-FR1	DIN 35	floating ground
		90	5 kA	x	BD-250-T-V/1-16	DIN 35	
Analog telephone line	2	170	x	5 kA	CLSA -TLF	LSA plus	disconnection
			x	10 kA	DL-TLF-HF	DIN 35	RJ11
			5 kA	x	BDG-230-V/1-R1	DIN 35	isolated signal ground
			5 kA	x	BDG-230-V/1-FR1	DIN 35	floating ground
		90	5 kA	x	BD-250-T-V/1-16	DIN 35	
DATEX-P	2	24	x	10 kA	CLSA-24	LSA plus	disconnection
			x	10 kA	DMG-024/1-Ry*	DIN 35	
			x	10 kA	DMG-024-V/1-R1	DIN 35	isolated signal ground
			x	10 kA	DMG-024-V/1-FR1	DIN 35	floating ground
			5 kA	x	BDG-024-V/1-R1	DIN 35	isolated signal ground
			5 kA	x	BDG-024-V/1-FR1	DIN 35	floating ground
ISDN U_{K0}	2	170	x	2,5 kA	DL-ISDN RJ45	DIN 35	
			x	10 kA	DL-ISDN SV	DIN 35	
	2	170	x	5 kA	CLSA-ISDN	LSA plus	disconnection
Modem M1	2	15	x	10 kA	CLSL-24	LSA plus	disconnection
			x	10 kA	DMG-024/1R-Ry*	DIN 35	isolated signal ground
			x	10 kA	DMG-024-V/1-R1	DIN 35	isolated signal ground
			x	10 kA	DMG-024-V/1-FR1	DIN 35	floating ground
			5 kA	x	BDG-024-V/1-R1	DIN 35	isolated signal ground
			5 kA	x	BDG-024-V/1-FR1	DIN 35	floating ground
			5 kA	x	BDM-24-V/1-R1	DIN 35	
					BDM-24-V/1-FR1	DIN 35	floating ground
Telephony systems (eg. Siemens, HICOM, ALCATEL)	2	170	x	5 kA	CLSA TLF	LSA plus	disconnection
			x	10 kA	DL-TLF-HF	DIN 35	RJ11
		90	5 kA	x	BD-250-T-V/1-16	DIN 35	
T-DSL	2	170	x	5 kA	CLSA-DSL	LSA plus	disconnection
			x	5 kA	CLSA-TLF	LSA plus	disconnection
			x	10 kA	DL-TLF-HF	DIN 35	RJ11
			x	10 kA	DMGHF-230-V/1-R	DIN 35	
			x	10 kA	DMGHF-230-V/1-FR	DIN 35	floating ground
	2+2		x	10 kA	DMGHF-230-V/2-R	DIN 35	
			x	10 kA	DMGHF-230-V/2-FR	DIN 35	floating ground
	2	180	5 kA	x	BD-250-T-V/1-16	DIN 35	
Multipurpose coarse protection	2	180	5 kA	x	BD-250-T-V/1-16	DIN 35	
				x	BD-250-T-V/1-F16	DIN 35	floating ground
		70	5 kA	x	BD-090-T-V/1-16	DIN 35	
				x	BD-090-T-V/1-F16	DIN 35	floating ground
		180	5 kA	x	BD-250-T	DIN 35	
		70	5 kA	x	BD-090-T	DIN 35	
VDSL/VDSL2	2	170	x	2,5 kA	FAX-OVERDRIVE ...		
			x	5 kA	CLS-DSL	LSA plus	disconnection
			x	10 kA	DL-TLF-HF	DIN 35	
			5 kA	20 kA	BD-250-T-V/1-16	DIN 35	

* Ry means version of the terminal: RS - screw, RB - screwless

DATA LINES NETWORK							
Interface / Signal	Protected lines	U (DC) (V)	Discharge current per core		SPD xx – corresponding voltage	For mounting on	Notes
			10/350 µs	8/20 µs			
ETHERNET 10/100/1 000 10 Base T	8	6/60	2	150 A	DL-10G-RJ45-PoE-AB	DIN 35	RJ45
		6	2	150 A	DL-1G-RJ45-PoE-AB	DIN 35	RJ45
			x	200 A	DL-Cat.5e	DIN 35	RJ45
			x	200 A	DL-Cat.6	DIN 35	RJ45
FDDI, CDDI	8	6/60	2	150 A	DL-10G-RJ45-PoE-AB	DIN 35	RJ45
		6	2	150 A	DL-1G-RJ45-PoE-AB	DIN 35	RJ45
			x	200 A	DL-Cat.5e	DIN 35	RJ45
			x	200 A	DL-Cat.6	DIN 35	RJ45
	2	6	x	5k A	CLSA-06	LSA plus	disconnection
Industrial Ethernet	8	6	2	150 A	DL-1G-RJ45-PoE-AB	DIN 35	RJ45
			x	200 A	DL-Cat.5e	DIN 35	RJ45
			x	200 A	DL-Cat.6	DIN 35	RJ45
	8 x 8	6	x	200 A	DL-Cat.5e 8 PATCH PANEL	19" RACK	LSA/RJ45
	16 x 8		x	200 A	DL-Cat.5e 16 PATCH PANEL	19" RACK	LSA/RJ45
	24 x 8		x	200 A	DL-Cat.5e 24 PATCH PANEL	19" RACK	LSA/RJ45
	8 x 8	6	x	200 A	DL-Cat.5e 8 RACK PANEL	19" RACK	RJ45
	16 x 8		x	200 A	DL-Cat.5e 16 RACK PANEL	19" RACK	RJ45
	24 x 8		x	200 A	DL-Cat.5e 24 RACK PANEL	19" RACK	RJ45
Token Ring	8	6	2	150 A	DL-1G-RJ45-PoE-AB	DIN 35	RJ45
			x	200 A	DL-Cat.5e	DIN 35	RJ45
			x	200 A	DL-Cat.6	DIN 35	RJ45
	8 x 8	6	x	200 A	DL-Cat.6 8 PATCH PANEL	19" RACK	LSA/RJ45
	16 x 8		x	200 A	DL-Cat.6 16 PATCH PANEL	19" RACK	LSA/RJ45
	24 x 8		x	200 A	DL-Cat.6 24 PATCH PANEL	19" RACK	LSA/RJ45
	8 x 8	6	x	200 A	DL-Cat.5e 8 RACK PANEL	19" RACK	RJ45
	16 x 8		x	200 A	DL-Cat.5e 16 RACK PANEL	19" RACK	RJ45
	24 x 8		x	200 A	DL-Cat.5e 24 RACK PANEL	19" RACK	RJ45
VG-Any LAN	8	6	2	150 A	DL-1G-RJ45-PoE-AB	DIN 35	RJ45
			x	200 A	DL-Cat.5e	DIN 35	RJ45
			x	200 A	DL-Cat.6	DIN 35	RJ45
	8 x 8	6	x	200 A	DL-Cat.6 8 PATCH PANEL	19" RACK	LSA/RJ45
	16 x 8		x	200 A	DL-Cat.6 16 PATCH PANEL	19" RACK	LSA/RJ45
	24 x 8		x	200 A	DL-Cat.6 24 PATCH PANEL	19" RACK	LSA/RJ45
	8 x 8	6	x	200 A	DL-Cat.5e 8 RACK PANEL	19" RACK	RJ45
	16 x 8		x	200 A	DL-Cat.5e 16 RACK PANEL	19" RACK	RJ45
	24 x 8		x	200 A	DL-Cat.5e 24 RACK PANEL	19" RACK	RJ45
VoIP (Voice over IP)	8	60	x	200 A	DL-Cat.6-60V	DIN 35	RJ45 male
POE (power over ethernet)	4	6/48	x	5 kA/1 kA	DL-100 POE 48	box	SV/RJ45
	4	6/48	x	1,5/1 kA	DL-Cat.5e POE plus	DIN 35	SV/RJ45
	8	6/60	2	150 A	DL-1G-RJ45-PoE-AB	DIN 35	RJ45
		6/60	2	150 A	DL-10G-RJ45-PoE-AB	DIN 35	RJ45

SALTEK® SPD applications in data / signalling / telecommunication systems

ANTENNAS, TRANSMITTERS, RECIEVERS, BROADBAND SYSTEM, CCTV								
Interface / Signal		Protected lines	U (DC) (V)	Discharge current per core		SPD xx – corresponding voltage	For mounting on	Notes
				10/350 µs	8/20 µs			
AMPS, NADAC 824 ÷ 894 MHz		1	70	2.5 kA	10 kA	HX-90 N50 F/F	N50	I_N = 6A 3.5 GHz
			70	2.5 kA	10 kA	HX-90 N50 F/M	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/M	N50	I_N = 6A 3.5 GHz
DCS 1800 B162 1710 ÷ 1880 MHz		1	70	2.5 kA	10 kA	HX-90 N50 F/F	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F	N50	I_N = 6A 3.5 GHz
Transmitters			70	2.5 kA	20 kA	HX-90 N50 F/F	N50	I_N = 6A 3.5 GHz
			70	2.5 kA	20 kA	HX-90 N50 F/M	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	20 kA	HX-230 N50 F/F	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	20 kA	HX-230 N50 F/M	N50	I_N = 6A 3.5 GHz
GSM 900, GSMR		1	70	2.5 kA	10 kA	HX-90 N50 F/F	N50	I_N = 6A 3.5 GHz
			70	2.5 kA	10 kA	HX-90 N50 F/M	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/M	N50	I_N = 6A 3.5 GHz
GPS 1565 ÷ 1585 MHz		1	70	2.5 kA	10 kA	HX-90 N50 F/F	N50	I_N = 6A 3.5 GHz
			70	2.5 kA	10 kA	HX-90 N50 F/M	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/M	N50	I_N = 6A 3.5 GHz
GSM 1800		1	70	2.5 kA	10 kA	HX-90 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
PCS 1900 1850 ÷ 1990 MHz		1	70	2.5 kA	10 kA	HX-90 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
TETRA, NMT 450 380 ÷ 512 MHz		1	70	2.5 kA	10 kA	HX-90 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
Terrestrial TV		1		x	1.5 kA	SX-90 F75 F/F	F connector	I_N =4A 2 GHz
				x	1.5 kA	SX-90 B75 F/F	BNC	I_N =4A 2 GHz
				2.5 kA	10 kA	FX-90 F75 F/F	F connector	I_N =4A 2 GHz
				2.5 kA	10 kA	FX-90 B75 F/F	BNC	I_N =4A 2 GHz
UMTS		1	70	2.5 kA	10 kA	HX-90 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
WLAN band 2.4 GHz		1	70	2.5 kA	10 kA	HX-90 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
			170	2.5 kA	10 kA	HX-230 N50 F/F (F/M)	N50	I_N = 6A 3.5 GHz
VIDEO	coax	1		x	10 kA	VL-B75 F/F	DIN 35	BNC
	2-wire	2		x	10 kA	VL-SV	DIN 35	screw terminals
	IP	8	5	x	200	DL-Cat 5e	DIN 35	RJ45
		8	5	x	200	DL-Cat 6	DIN 35	RJ45
		4	6/76	x	1	DL-100 POE-048	box	SV/RJ45
		4	6/76	x	1	DL-Cat. 5e POE plus	DIN 35	RJ45
		8	6/60	2	150	DL-1G-RJ45-PoE-AB	DIN 35	RJ45
		8	6/60	2	150	DL-10G-RJ45-PoE-AB	DIN 35	RJ45
WLAN Twist Pair		2		x	10 kA	VL-SV	DIN 35	screw terminals

Voltage guards

Voltage guards are used to protect electrical and electronic equipment against damage from surges and voltage fluctuations beyond the tolerance band. They should be used for protection of the technology in all areas where there is unstable power supply voltage. Mainly, they are suitable for protecting of the equipment such as air conditioning units, heat pumps, refrigeration units, steam boxes etc.

- Tripping limit = 190 / 260 V AC
- Applied limit = 200 / 250 V AC
- Response/Latency time = 0,5 / 3 s

Type	Mounting	SPD	I_n (L+N-PE) (8/20 µs)	Phases	U_n	I_L	Ordering number
HN-OVERDRIVE X16 CZ	Plug adapter	Yes	3 kA	1	230 V AC	16 A	8595090519409
HN-230-16 DJ	on DIN rail	No	-	1	230 V AC	16 A	8595090519805
HN-400-16 DJ	on DIN rail	No	-	3	230 V AC	16 A	8595090524922

Isolating spark gaps ISG and ISG Ex

For indirect connection of external lightning protection system with other nearby metal parts, where direct connection is not allowed due to operational reasons: earth termination systems of power installations, earth termination systems of telecommunication systems, auxiliary earth electrodes of voltage operated earth fault circuit breakers, rail earth electrode of AC and DC railways, measuring earth electrode for laboratories, installations with cathodic protection and stray current systems, service entry masts for low-voltage overhead cables, bypassing insulated flanges and insulated couplings of pipelines.

- Very low rated DC withstand voltage
- Various connection possibilities
- Variants for use in Hazardous (Ex) areas - in stainless steel enclosure
- Isolation resistance ≥ 100 MΩ
- Products of classes N and H

Type	To Ex areas	Connection	I_{imp} (10/350 µs)	U_{rimp}	U_{WAC}	U_{WDC}	Class	Ordering number
ISG-A100	No	Pins	100 kA	5 kV	2,5 kV	-	Class H	8595090535904
ISG-50	No	Bolts	50 kA	0,9 kV	0,035 kV	0,05 kV	Class N	8595090540861
ISG-100	No	Bolts	50 kA	0,95 kV	0,07 kV	0,1 kV	Class N	8595090540786
ISG-250	No	Bolts	100 kA	1,4 kV	0,25 kV	0,375 kV	Class H	8595090541301
ISG-500	No	Bolts	100 kA	1,5 kV	0,35 kV	0,5 kV	Class H	8595090541271
ISGC-50	No	Cables	50 kA	0,9 kV	0,035 kV	0,05 kV	Class N	8595090553656
ISGC-100	No	Cables	50 kA	0,95 kV	0,07 kV	0,1 kV	Class N	8595090553663
ISGC-250	No	Cables	100 kA	1,4 kV	0,25 kV	0,375 kV	Class H	8595090553670
ISGC-500	No	Cables	100 kA	1,5 kV	0,35 kV	0,5 kV	Class H	8595090553687
ISGO-500	No	Cable/bolt	100 kA	1,5 kV	0,35 kV	0,5 kV	Class H	8595090555186
ISG-50H Ex	Yes	Bolts	100 kA	0,9 kV	0,035 kV	0,05 kV	Class H	8595090541318
ISG-100H Ex	Yes	Bolts	100 kA	0,95 kV	0,07 kV	0,1 kV	Class H	8595090541325
ISG-250H Ex	Yes	Bolts	100 kA	1,4 kV	0,25 kV	0,375 kV	Class H	8595090541226
ISG-500H Ex	Yes	Bolts	100 kA	1,5 kV	0,35 kV	0,5 kV	Class H	8595090541097
ISGC-50H Ex	Yes	Cables	100 kA	0,9 kV	0,035 kV	0,05 kV	Class H	8595090541288
ISGC-100H Ex	Yes	Cables	100 kA	0,95 kV	0,07 kV	0,1 kV	Class H	8595090541295
ISGC-250H Ex	Yes	Cables	100 kA	1,4 kV	0,25 kV	0,375 kV	Class H	8595090540380
ISGC-500H Ex	Yes	Cables	100 kA	1,5 kV	0,35 kV	0,5 kV	Class H	8595090541202
ISGT-50H Ex	Yes	Cable lugs	100 kA	0,9 kV	0,035 kV	0,05 kV	Class H	8595090555155
ISGT-100H Ex	Yes	Cable lugs	100 kA	0,95 kV	0,07 kV	0,1 kV	Class H	8595090555179
ISGT-250H Ex	Yes	Cable lugs	100 kA	1,4 kV	0,25 kV	0,375 kV	Class H	8595090555162
ISGO-50H Ex	Yes	Cable/bolt	100 kA	0,9 kV	0,035 kV	0,05 kV	Class H	8595090561422
ISGO-100H Ex	Yes	Cable/bolt	100 kA	0,95 kV	0,07 kV	0,1 kV	Class H	8595090561439
ISGO-250H Ex	Yes	Cable/bolt	100 kA	1,4 kV	0,25 kV	0,375 kV	Class H	8595090561446
ISGO-500H Ex	Yes	Cable/bolt	100 kA	1,5 kV	0,35 kV	0,5 kV	Class H	8595090555148

Sales and technical support:

SALTEK TRADE s.r.o.
Vodňanská 1419/226
198 00 Praha 9 - Kyje
Czech Republic
Phone: +420 272 942 470
Fax: +420 267 913 411
E-mail: trade@saltek.cz
www.saltek.eu/en

Manufacture and headquarter:

SALTEK s.r.o.
Drážďanská 85
400 07 Ústí nad Labem
Czech Republic
Phone: +420 475 655 511
Fax: +420 475 622 213
E-mail: info@saltek.cz
www.saltek.eu

Distributor:

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