

CATALOGUE

SURGE PROTECTION

LOW VOLTAGE



SALTEK, s.r.o. (limited liability company), is a Czech company specialised in the development and manufacturing of surge protection devices (SPD). We offer a wide range of lightning current arresters and surge protections type 1 to 3, pursuant to EN 61643-11, as well as surge protections for information technology, measurement and control and telecommunications and also protections for photovoltaic applications.

SALTEK has been in the business since 1995.

Currently, the company has 2 centres. Its headquarters, management, R+D, manufacturing premises, test lab and logistics based in Ústí nad Labem. Sales office and technical support is situated in Prague. Commercial activities abroad are provided by the subsidiaries SALTEK TRADE, SALTEK Slovakia and SALTEK RU (Russia).

Our in-house product development is crucial for the dynamic development of the company. The development design office and laboratories are equipped with



unique instruments and technologies. State-of-the-art materials, design procedures, technologies and measurement methods are used for the development.

Exceptional attention is paid to the care of product quality, from the input material and component testing up to robotised output control. Shortly after it was established, SALTEK introduced and then certified its management system in compliance with international standards. In 1998, we certified the quality management system under the ISO 9001 standard. In 2005, the

company introduced an integrated IMS management system, which consists of a quality management system under ISO 9001, an environmental protection management system under ISO 14001 and a health and safety management system under OHSAS 18001. The IMS system is periodically reviewed by external auditing company TÜV NORD Czech.

In 2010, to handle the rapid growth of the company SALTEK adopted information system SAP enabling smart control over all processes.



CATALOGUE

SURGE PROTECTION

LOW VOLTAGE

T1 T2

SPD type 1 and 2

Powerful combined lightning and surge arrester
modern technology – no follow current, no leakage current

FLP-B+C MAXI VS

T1 T2

SPD type 1 and 2

Economical lightning and surge arresters
based on MOV technology

FLP-12,5 V
FLP-275 V

T2

SPD type 2

Versatile standard product with excellent reliability
Variety of voltages

SLP-275 V

T2

SPD type 2

Enhanced MOV-GDT combination reducing leakage current
with prolonged MOV lifetime, T3 tested

SLP-275 VB

T3

SPD type 3

Terminal protection for DIN rail

DA-275 V
DA-275 DJ

T3

SPD type 3

Terminal protection for DIN rail

DA-275 DF

T3

SPD type 3

Terminal protection for socket use

CZ-275 A
DA-275 PP

The actual complete range of protections for low voltage power supply, signal, measurement, data and telecom lines and for photovoltaic applications is available on

Lightning and surge protection

1. Introduction – Legislative

The use of modern sophisticated apparatuses, equipment, consumer electronics and control systems places high demands on their electromagnetic compatibility. Modern electronic control systems provided with circuits with a very high integration level are becoming more and more sensitive to electromagnetic disturbance and overvoltage. The installation of surge protections according to effective legal regulations will reduce the danger of their being damaged to a minimum.

Conditions for safe operation and function of electrical equipment for the Czech Republic are specified in detail in Act 205/2002 and Ordinance 18/2003.

Technical designs are defined by standards harmonised with EU standards:

- a) Protective bonding to the same potential including the conductor cross section for the main and additional bonding is defined by standards **EN 50 310 ed. 2**.
- b) Lightning protection is specified in the **EN 62 305** collection of new standards, harmonised with European standards, whereas **EN 62 305 – Section 1** deals with general principles.

Lightning protection level	Maximum lightning parameter according to LPL	
	First short discharge	Discharge charge
LPL	200 kA	100 C
LPL I	200 kA	100 C
LPL II	150 kA	75 C
LPL III	100 kA	50 C
LPL IV	100 kA	50 C

EN 62 305 – Section 2 – deals with the risk assessment for buildings or engineering networks struck by downward lightning.

EN 62 305 – Section 3 – deals with the proposal for external lightning protection (lightning conductor).

EN 62 305 – Section 4 – deals with protective measures resulting in the reduction of failures of electric and electronic systems inside the building (zone protection) (also in ČSN IEC 61 312-3).

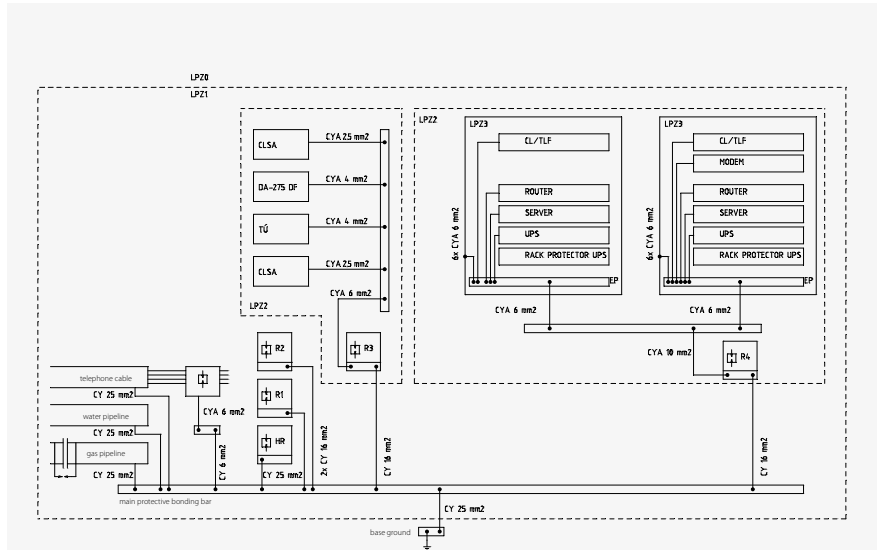
c) Classification of protections is set forth in standard **EN 61 643-11**.

Protections are classified into three basic categories:

- SPD type 1 – lightning current arresters
- SPD type 2 – surge protections
- SPD type 3 – surge protections

d) Classification of low-voltage distributions into impulse resistance categories, including specification of the maximum allowed overvoltage is determined in standard

EN 60 664-1



Example of main and additional bonding

Lightning protection zones

The standard EN 62305-4 (EN 61312-3) defines lightning protection zones LPZ in view of the direct and indirect (electromagnetic pulse – LEMP) lightning effect:

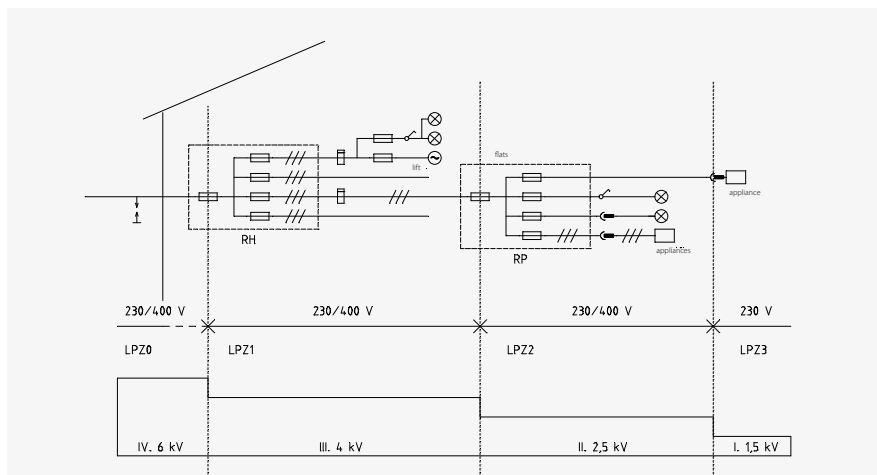
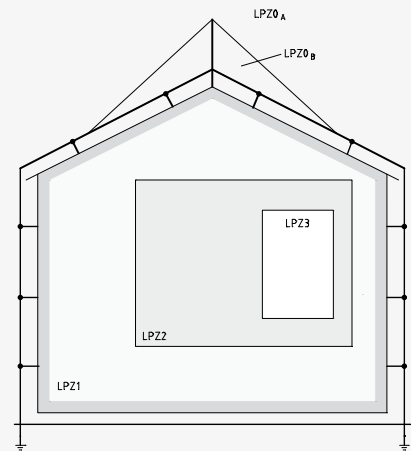
LPZ 0_A – free area (possibility of a direct lightning strike, non-attenuated LEMP)

LPZ 0_B – lightning conductor receiver protection area (direct lightning strike protection, non-attenuated LEMP)

LPZ 1 – inside a building (direct lightning strike is eliminated, attenuated LEMP – depending upon shielding)

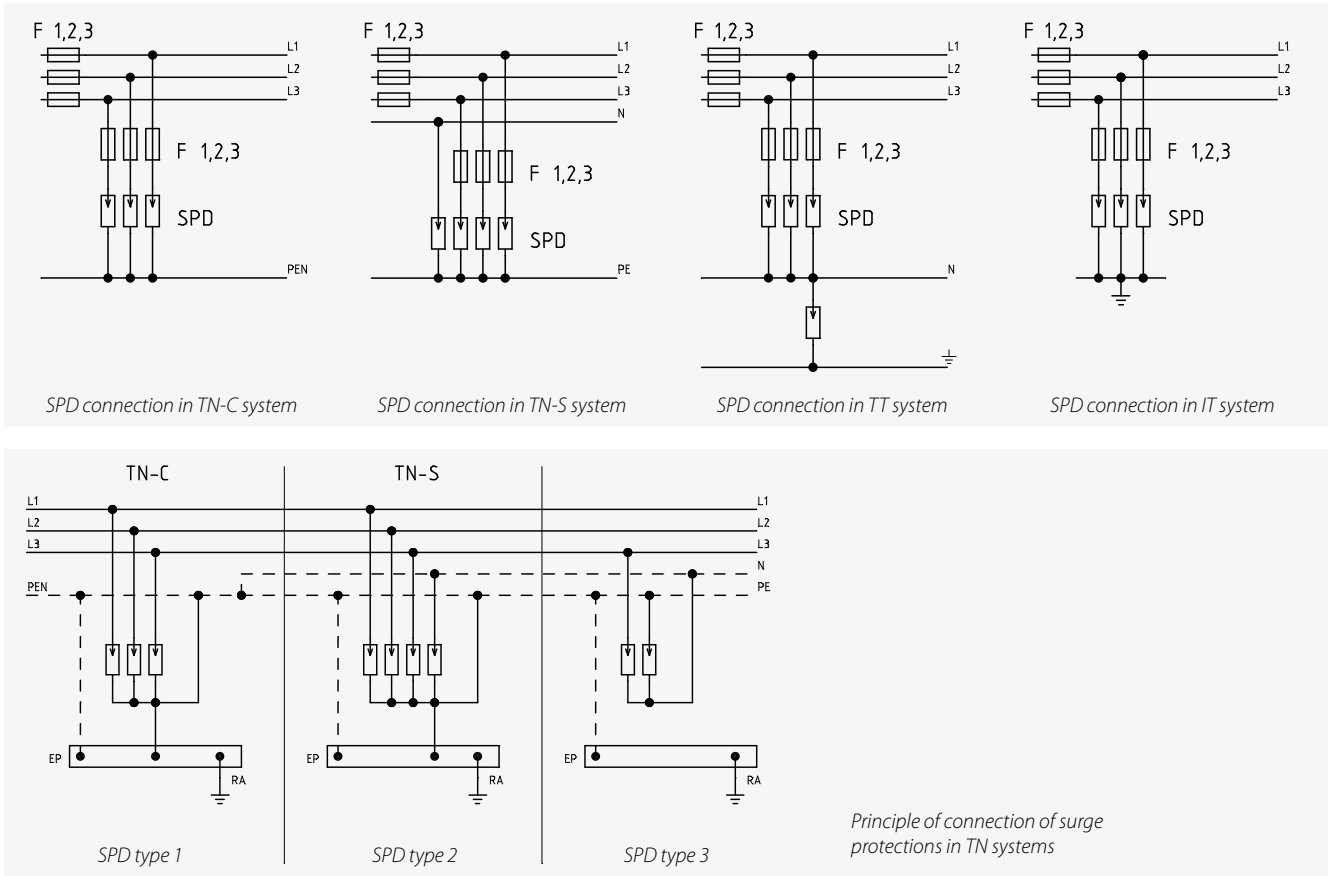
LPZ 2 – inside a room – e.g. a server room with a conductive floor, FeAl floors and wall lining (further attenuation of LEMP in connection with a higher shielding level)

LPZ 3 – inside a metal box (e.g. 19" RACK)



Nominal impulse resistance voltage of equipment (acc. to EN 60 664-1)

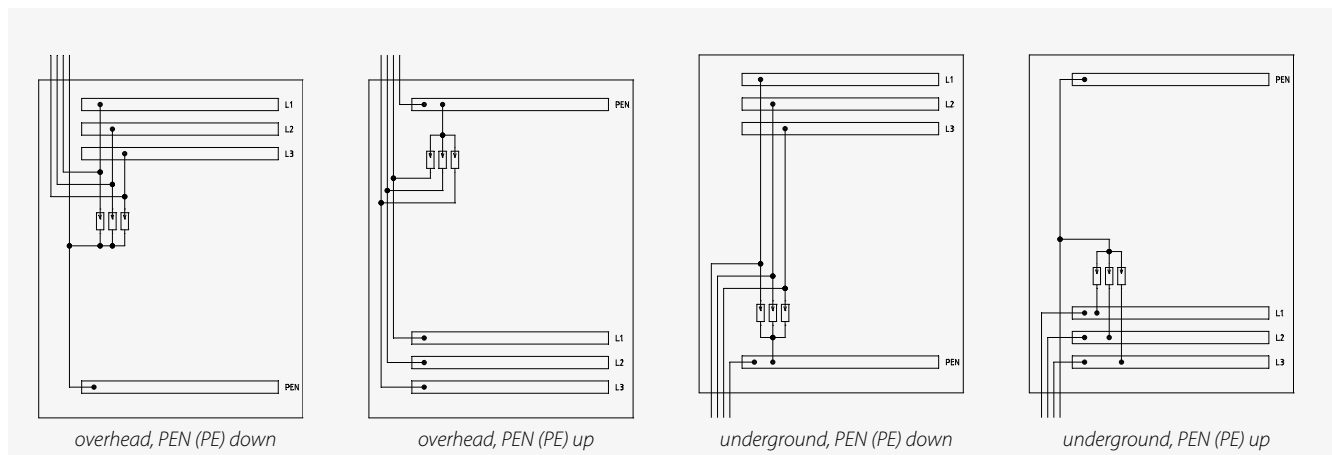
2. Connection of protections in TN, TT and IT systems



3. Principles of positioning and wiring of surge protections and lightning current arresters

Surge protections and lightning current arresters cannot be installed in the distributor at random. You must be aware of the fact that protection should be placed in closest proximity to the input feed cable in the distributor in order to minimize the inductive loop area, see fig. 1.

Fig. 1 – Examples of protection positioning in the distributor.



Another important condition for the wiring of protections is to minimize the impedance of interconnecting conductors. Since the fault current flowing through the protection has a frequency at which the current does not flow through the whole cross section but pushes towards the conductor surface (skin effect), it is necessary to use a stranded conductor or a strip conductor for the wiring of protections. Furthermore, the length of the interconnecting conductors must be as short as possible (the total length of interconnecting conductors must not exceed 0.5 m). The cross section of the interconnecting conductors should be as large as possible – maximum up to the cross section according to the terminal type.

The cross section of interconnecting conductors is recommended to be larger by at least one sequence number than the PEN (PE) conductor diameter (e.g. if the PEN conductor diameter is 10 mm², the cross section of the interconnecting conductor should be 16 mm²).

If protections are placed in a circuit fitted with residual current devices (RCD), the protection must be set before the RCD (not in the RCD circuit) to avoid spontaneous RCD availability due to surge protections or lightning current arresters.

If the RC is placed before the protection, it is necessary to use the delayed RCD type, e.g. S-type or G-type.

FLP-B+C MAXI VS

SPD type 1 – combined arrester type 1 and 2

Surge protector devices (SPD) of class B+C serve for protection of low-voltage (230/400 V AC) networks and connected appliances against surge voltages due to direct - and indirect lightning strikes.

The FLP-B+C MAXI VS SPD is built in a single block.

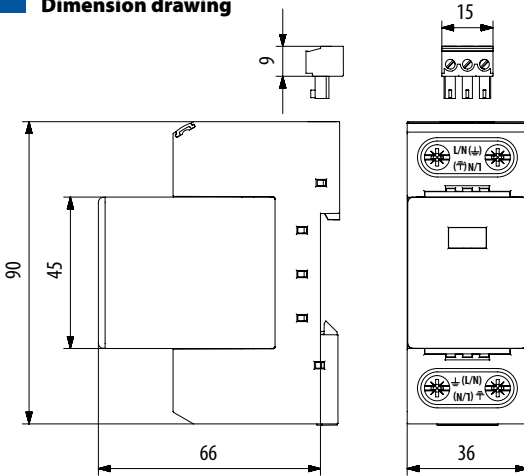
Module offers a combination of heavy duty gas discharge tube (GDT) rated at 25 kA (10/350 µsec pulse) with high energy varistors block. This module guarantee no follow-on current, very low leakage current (µA range) and very low residual voltage.

The form a part of the protection of buildings and their accessories in the concept of zone lightning protection at the boundary of the LPZ 0 and LPZ 1 (or higher) zones.

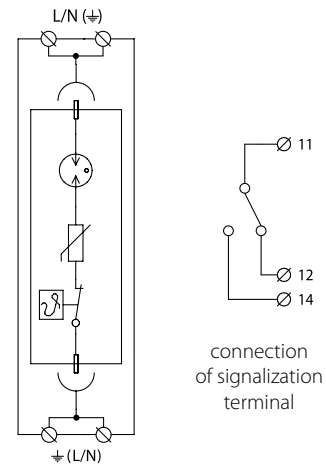
- reliable arrester disconnection during overload or damaging of the protective module by thermal and dynamical varistor disconnection
- optical fault indication – changing color of the signaling flag from green to red
- low voltage U_p
- housing material according to UL 94 V0



Dimension drawing



Basic circuit diagram



Technical data

		FLP-B+C MAXI VS
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	260 V AC
Nominal discharge current (8/20 µs)	I_n	30 kA
Lightning impulse current (10/350 µs)	I_{imp}	25 kA
Maximum discharge current (8/20 µs)	I_{max}	60 kA
Voltage protection level	U_p	1,5 kA
Response time	t_a	100 ns
Ability to independently switch off the following current	I_{fi}	no following current
Short-circuit proof at maximum overcurrent protection		50 kA _{rms}
Maximum overcurrent protection		250 A gL/gG
Maximum overcurrent protection for serial connection		125 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 10/50 mm ² ; AWG: 7/1
Stranded min/max		ISO: 10/35 mm ² ; AWG: 7/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Visual fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090535331

FLP-B+C MAXI VS/3

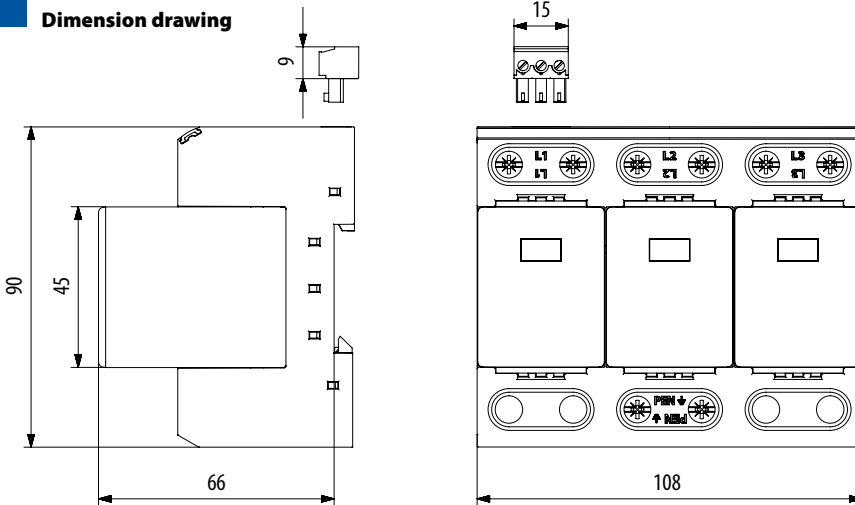
SPD type 1 – combined arrester type 1 and 2

Highly efficient varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0_A–LPZ 1 zones and higher, to prevent overvoltage effects induced during direct or indirect lightning strikes. It is particularly suitable for residential houses and small buildings with a low-voltage cable terminal or for secondary switchboards in large building.

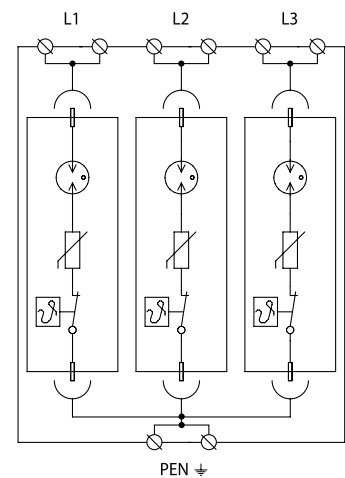
- Visual fault signalling
- Remote status signalling (S).



Dimension drawing

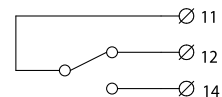


Basic circuit diagram



Technical data

		FLP-B+C MAXI VS/3
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	260 V AC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	60 kA
Lightning impulse current (10/350 μ s)/pole	I_{imp}	25 kA
Voltage protection level	U_p	1,5 kV
Response time	t_a	100 ns
Ability to independently switch off the following current	I_{fi}	no following current
Short-circuit proof at maximum overcurrent protection		50 kA _{rms}
Maximum overcurrent protection		250 A gL/gG
Maximum overcurrent protection for serial connection		125 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 10/50 mm ² ; AWG: 7/1
Stranded min/max		ISO: 10/35 mm ² ; AWG: 7/2
Stripping length of the supply conductor		11 mm
Tightening torque		max. 4 Nm
Visual fault indication		red indication field
Remote indication		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090535706



connection of signalization terminal

FLP-B+C MAXI VS/4

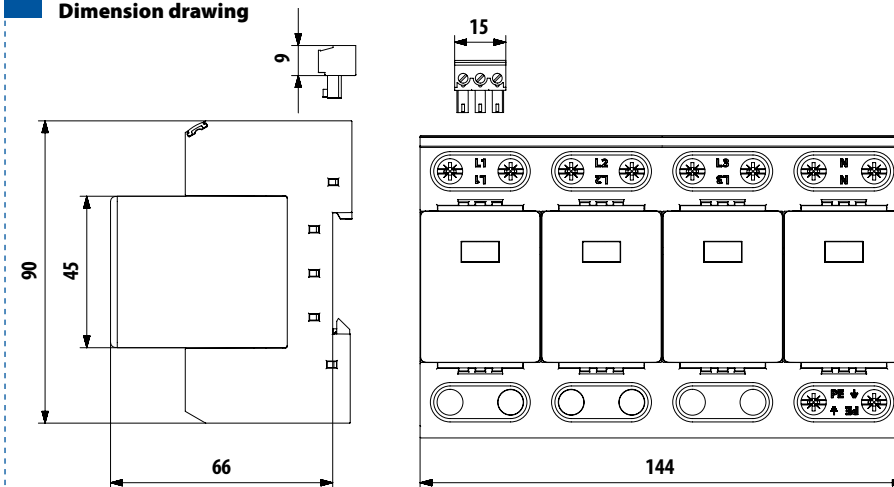
SPD type 1 – combined arrester type 1 and 2

Highly efficient, 4-pole varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0_A–LPZ 1 zones and higher, to prevent overvoltage effects induced during direct or indirect lightning strikes. It is particularly suitable for residential houses and small buildings with a low-voltage cable terminal or for secondary switchboards in large building.

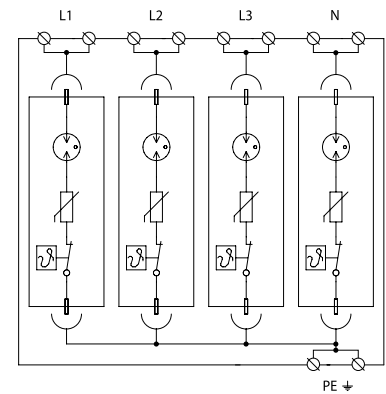
- Visual fault signalling
- Remote status signalling (S).



Dimension drawing

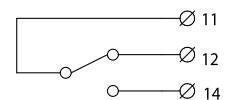


Basic circuit diagram



Technical data

		FLP-B+C MAXI VS/4
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	260 V AC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	60 kA
Lighting impulse current (10/350 μ s)/pole	I_{imp}	25 kA
Voltage protection level	U_p	1,5 kV
Response time	t_a	100 ns
Ability to independently switch off the following current	I_{fi}	no following current
Short-circuit proof at maximum overcurrent protection		50 kA _{rms}
Maximum overcurrent protection		250 A gL/gG
Maximum overcurrent protection for serial connection		125 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 10/50 mm ² ; AWG: 7/1
Stranded min/max		ISO: 10/35 mm ² ; AWG: 7/2
Stripping length of the supply conductor		11 mm
Tightening torque		max. 4 Nm
Visual fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090535713



connection of signalization terminal

FLP-B+C MAXI VS/3+1

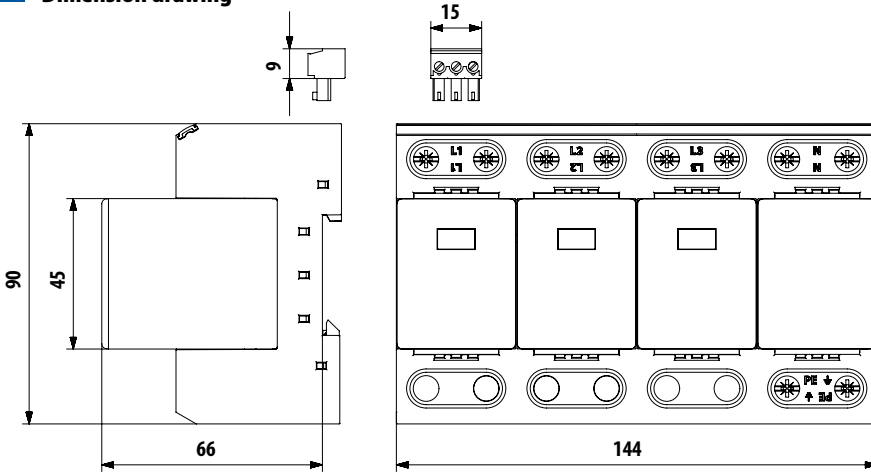
SPD type 1 and type 2– combined arrester type 1 and 2

Highly efficient varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0_A–LPZ 1 zones and higher, to prevent overvoltage effects induced during direct or indirect lightning strikes. It is particularly suitable for residential houses and small buildings with a low-voltage cable terminal or for secondary switchboards in large building.

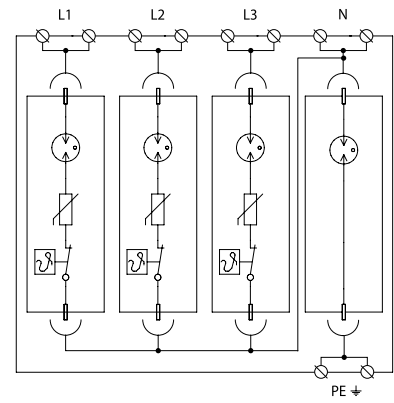
- Visual fault signalling
- Remote status signalling (S).



Dimension drawing

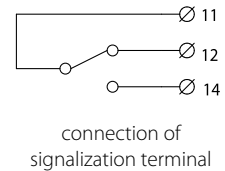


Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	260 V AC	255 V AC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA	100 kA
Maximum discharge current (8/20 μ s)	I_{max}	60 kA	100 kA
Lighting impulse current (10/350 μ s)/pole	I_{imp}	25 kA	100 kA
Voltage protection level	U_p	1,5 kV	1,5 kV
Response time	t_d	100 ns	100 ns
Ability to independently switch off the following current	I_f	no following current	100 A
Short-circuit proof at maximum overcurrent protection		50 kA _{ms}	—
Maximum overcurrent protection		250 A gL/gG	—
Maximum overcurrent protection for serial connection		125 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		– 40 °C ... + 80 °C	– 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 10/50 mm ² ; AWG: 7/1	ISO: 10/50 mm ² ; AWG: 7/1
Stranded min/max		ISO: 10/35 mm ² ; AWG: 7/2	ISO: 10/35 mm ² ; AWG: 7/2
Stripping length of the supply conductor		11 mm	11 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Visual fault indication		red indication field	no
Remote indication*		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090535720	



* Remote signalling of N-PE module shows the presence of the replaceable module

FLP-A50N VS

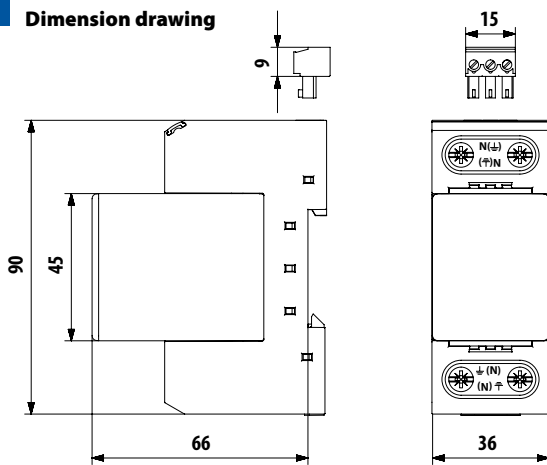
SPD type 1 – lightning current arrester

N-PE module, replaceable module

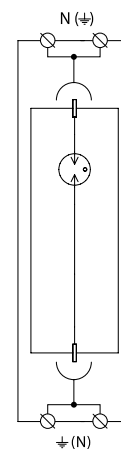
To be installed in low-voltage distributions at the boundary of LPZ 0_A–LPZ 1 zones and higher to prevent overvoltage effects induced during direct or indirect lightning strikes for the connection of SPD type 1 in the mode 1+1.



Dimension drawing



Basic circuit diagram



Technical data

FLP-A50N VS

Nominal voltage	U_n	—
Maximum operating voltage	U_c	255 V AC
Nominal discharge current (8/20 μ s)	I_n	50 kA
Maximum discharge current (8/20 μ s)	I_{max}	100 kA
Lightning impulse current (10/350 μ s)	I_{imp}	50 kA
Voltage protection level	U_p	1,5 kV
Response time	t_a	100 ns
Ability to independently switch off the following current	I_{fi}	100 A
Short-circuit proof at maximum overcurrent protection		—
Maximum overcurrent protection		—
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 10/50 mm ² ; AWG: 7/1
Stranded min/max		ISO: 10/35 mm ² ; AWG: 7/2
Stripping length of the supply conductor		11 mm
Tightening torque		max. 4 Nm
Visual fault indication		no
Remote indication *		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090535737

* Remote signalling of N-PE module shows the presence of the replaceable module

FLP-A100N VS

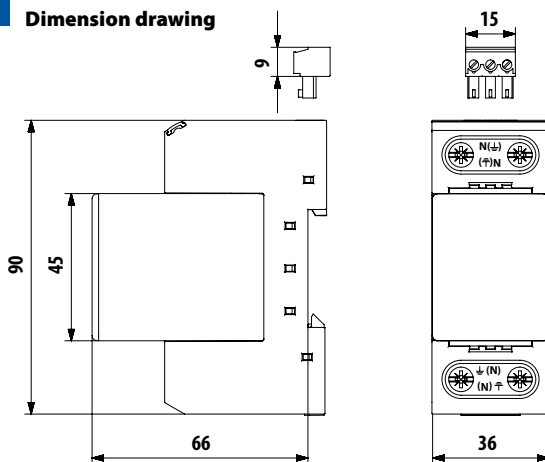
SPD type 1 – lightning current arrester

N-PE module, replaceable module

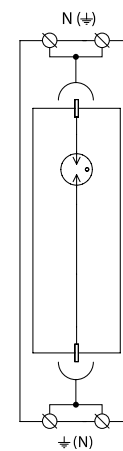
To be installed in low-voltage distributions at the boundary of LPZ 0_A and LPZ 1 zones to prevent overvoltage effects induced during direct or indirect lightning strikes for the connection of SPD type 1 in the mode 3+1.



Dimension drawing



Basic circuit diagram



Technical data

FLP-A100N VS

Nominal voltage	U_n	—
Maximum operating voltage	U_c	255 V AC
Nominal discharge current (8/20 μ s)/pole	I_n	100 kA
Maximum discharge current (8/20 μ s)	I_{max}	100 kA
Lighting impulse current (10/350 μ s)/pole	I_{imp}	100 kA
Voltage protection level	U_p	1,5 kV
Response time	t_a	100 ns
Ability to independently switch off the following current	I_{fi}	100 A
Short-circuit proof at maximum overcurrent protection		—
Maximum overcurrent protection		—
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 10/50 mm ² ; AWG: 7/1
Stranded min/max		ISO: 10/35 mm ² ; AWG: 7/2
Stripping length of the supply conductor		11 mm
Tightening torque		max. 4 Nm
Visual fault indication		no
Remote indication *		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090535744

* Remote signalling of N-PE module shows the presence of the replaceable module

FLP-12,5 V FLP-12,5 VS

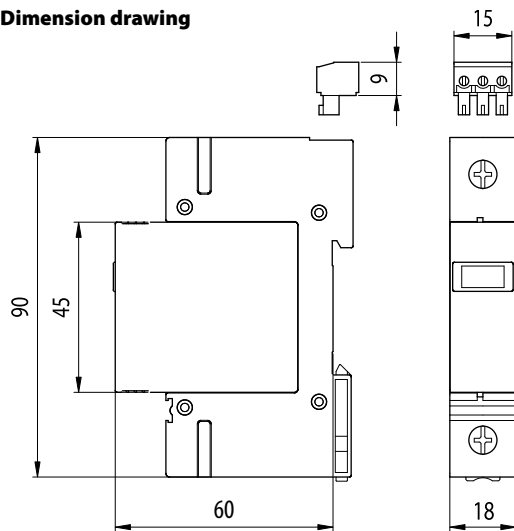
SPD type 1 and type 2 – lightning current arrester

Replaceable varistor module, visual fault signalling

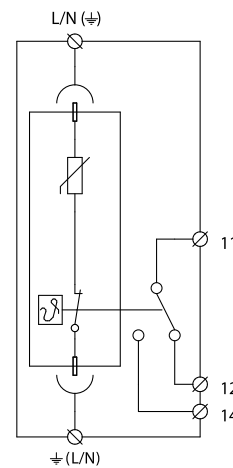
Varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0–LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		FLP-12,5 V
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)	I_n	30 kA
Maximal discharge current	I_{max}	60 kA
Lightning impulse current (10/350 μ s)	I_{imp}	12,5 kA
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	FLP-12,5 V	8595090534211
	FLP-12,5 VS	8595090534228

FLP-12,5 V/3 FLP-12,5 V/3 S

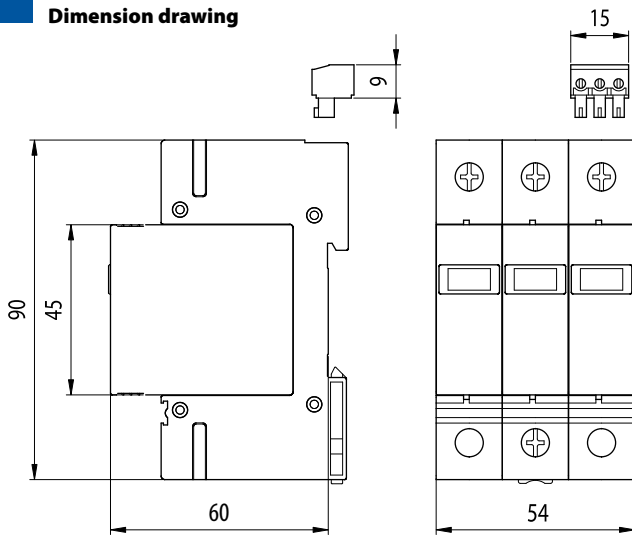
SPD type 1 and type 2 – lightning current arrester

Replaceable varistor module, visual fault signalling

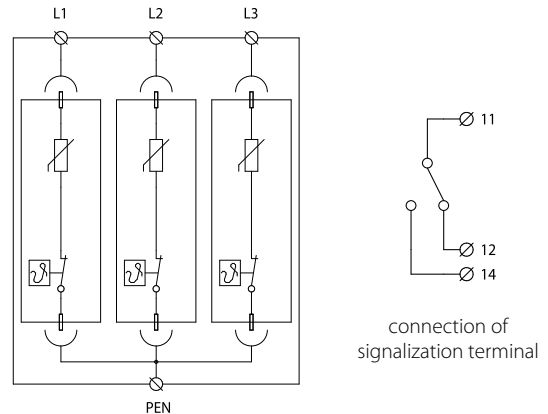
3-pole varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0–LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		FLP-12,5 V/3
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA
Maximal discharge current/pole	I_{max}	60 kA
Lightning impulse current (10/350 μ s)/pole	I_{imp}	12,5 kA
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	FLP-12,5 V/3	8595090534259
	FLP-12,5 V/3S	8595090534266

FLP-12,5 V/4 FLP-12,5 V/4 S

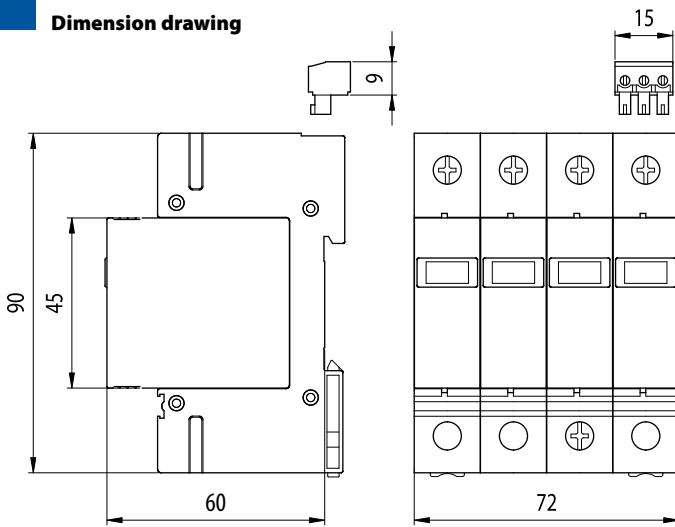
SPD type 1 and type 2 – lightning current arrester

Replaceable varistor module, visual fault signalling

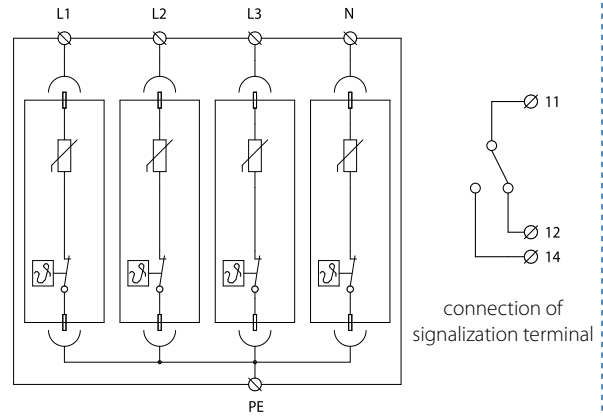
4-pole varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0–LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		FLP-12,5 V/4
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA
Maximal discharge current/pole	I_{max}	60 kA
Lightning impulse current (10/350 μ s)/pole	I_{imp}	12,5 kA
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	FLP-12,5 V/4	8595090534297
	FLP-12,5 V/4S	8595090534303

FLP-12,5 V/1+1 FLP-12,5 V/1S+1

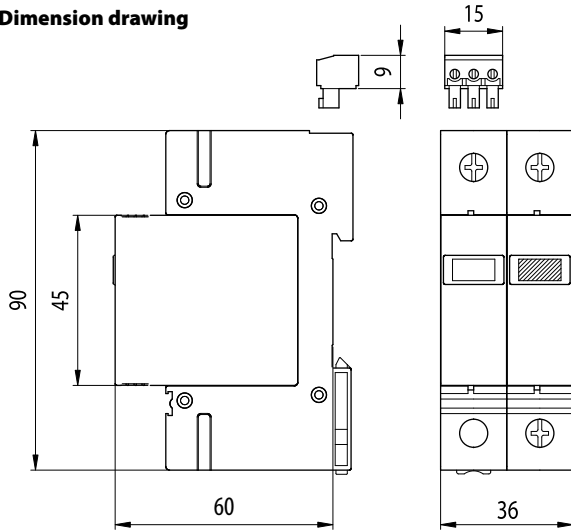
SPD type 1 and type 2 – lightning current arrester

Replaceable varistor module, visual fault signalling

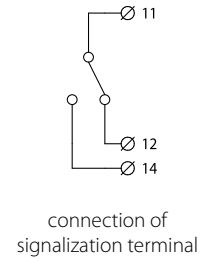
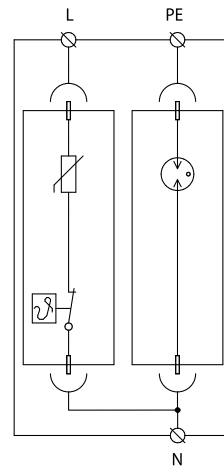
Varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0–LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)	I_n	30 kA	30 kA
Maximal discharge current (8/20 μ s)	I_{max}	60 kA	60 kA
Lightning impulse current (10/350 μ s)	I_{imp}	12,5 kA	25 kA
Voltage protection level	U_p	1,2 kV	1,5 kV
Response time	t_a	25 ns	100 ns
Ability independently switch off the following current	I_n	no following current	100 A
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	—
Maximum overcurrent protection		160 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		– 40 °C ... + 80 °C	– 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	no
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number	FLP-12,5V/1+1	8595090534235	
	FLP-12,5V/1S+1	8595090534242	

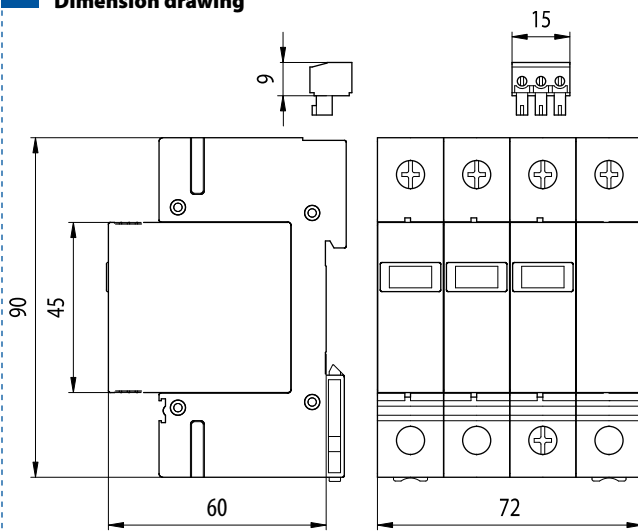
FLP-12,5 V/3+1 FLP-12,5 V/3S+1

SPD type 1 and type 2 – lightning current arrester
Replaceable varistor module, visual fault signalling

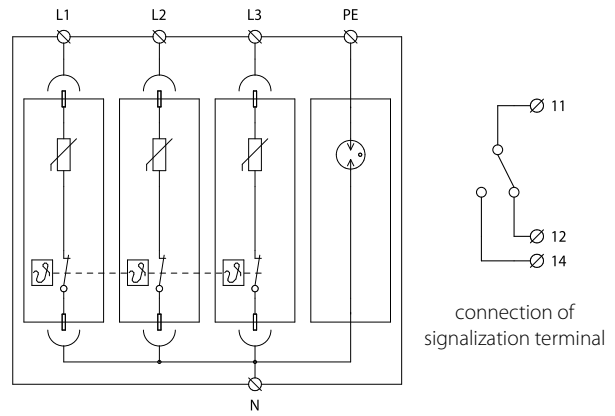
3-pole varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0–LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)	I_n	30 kA	50 kA
Maximal discharge current (8/20 μ s)	I_{max}	60 kA	100 kA
Lightning impulse current (10/350 μ s)	I_{imp}	12,5 kA	50 kA
Voltage protection level	U_p	1,2 kV	1,5 kV
Response time	t_a	25 ns	100 ns
Ability independently switch off the following current	I_n	no following current	100 A
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	—
Maximum overcurrent protection		160 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		– 40 °C ... + 80 °C	– 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	no
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number			
	FLP-12,5V/3+1	8595090534273	
	FLP-12,5V/3S+1	8595090534280	

FLP-275 V FLP-275 VS

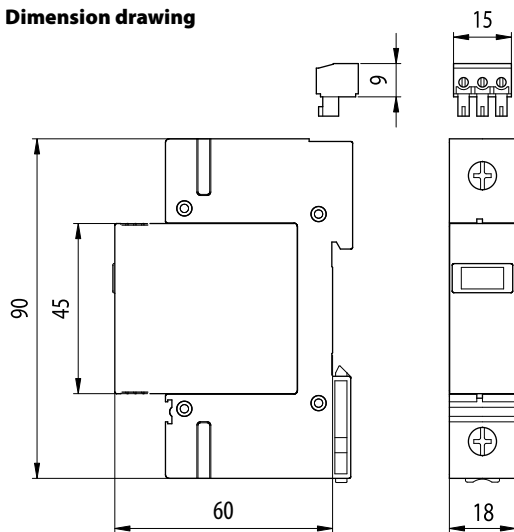
SPD type 1 and type 2

Replaceable varistor module, visual fault signalling

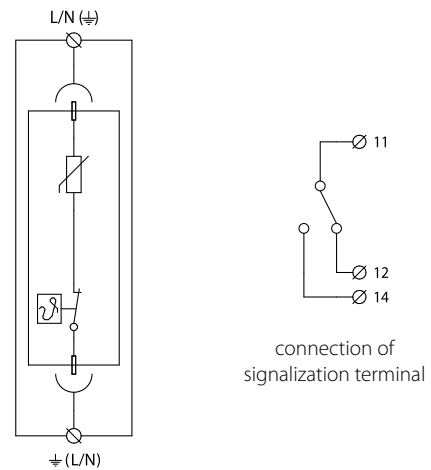
Varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0_b-LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).





Dimension drawing



Basic circuit diagram



Technical data

		FLP-275 V
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)	I_n	30 kA
Maximum discharge current	I_{max}	60 kA
Lightning impulse current (10/350 μ s)	I_{imp}	8 kA
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11  
Ordering number	FLP-275 V	8595090516200
	FLP-275 VS	8595090516217

FLP-275 V/3 FLP-275 V/3 S

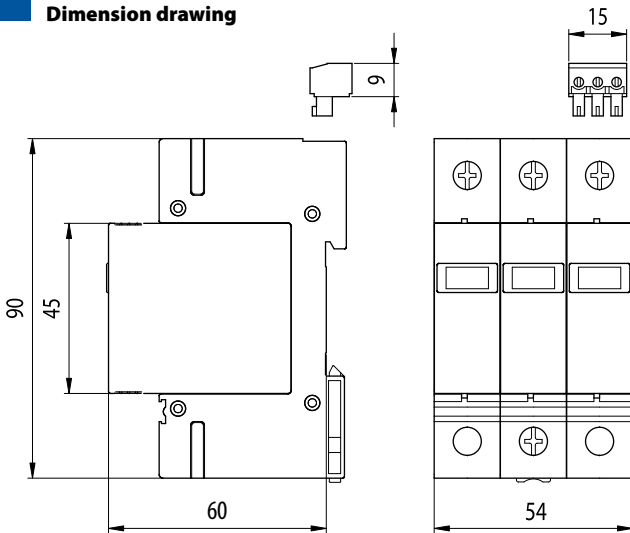
SPD type 1 and type 2

Replaceable varistor module, visual fault signalling

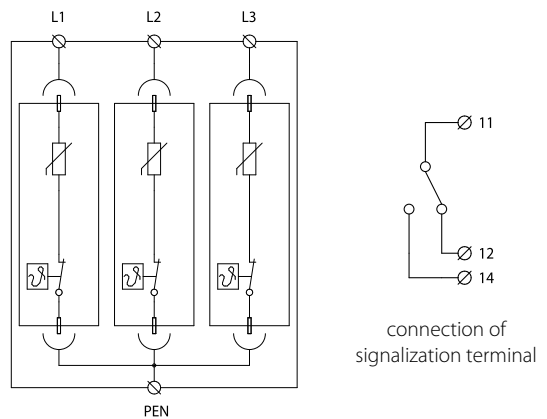
3-pole varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0_B-LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		FLP-275 V/3
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	60 kA
Lightning impulse current (10/350 μ s)/pole	I_{imp}	8 kA
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	FLP-275 V/3	8595090517757
	FLP-275 V/3 S	8595090517771

FLP-275 V/4 FLP-275 V/4 S

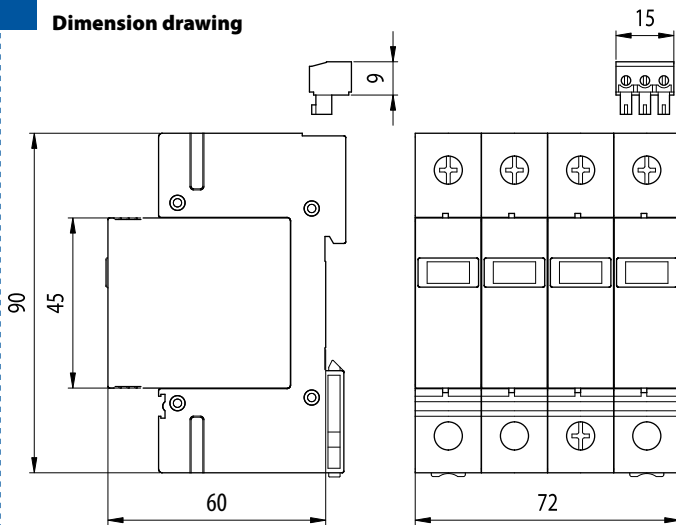
SPD type 1 and type 2

Replaceable varistor module, visual fault signalling

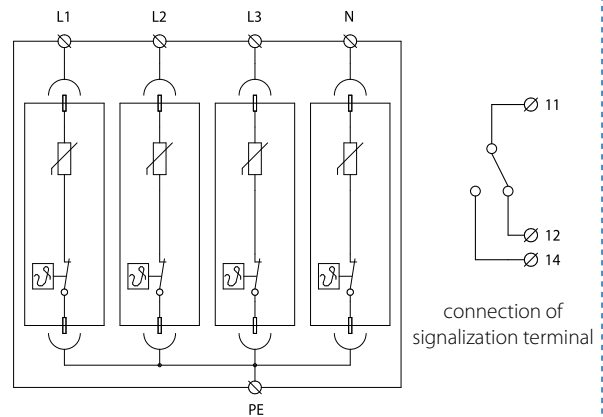
4-pole varistor lightning current arrester to be installed in low-voltage distributions at the boundary of LPZ 0_b-LPZ 1 zones and higher to prevent overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		FLP-275 V/4
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	60 kA
Lighting impulse current (10/350 μ s)/pole	I_{imp}	8 kA
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	FLP-275 V/4	8595090517788
	FLP-275 V/4 S	8595090517795

FLP-275 V/1+1 FLP-275 V/1S+1

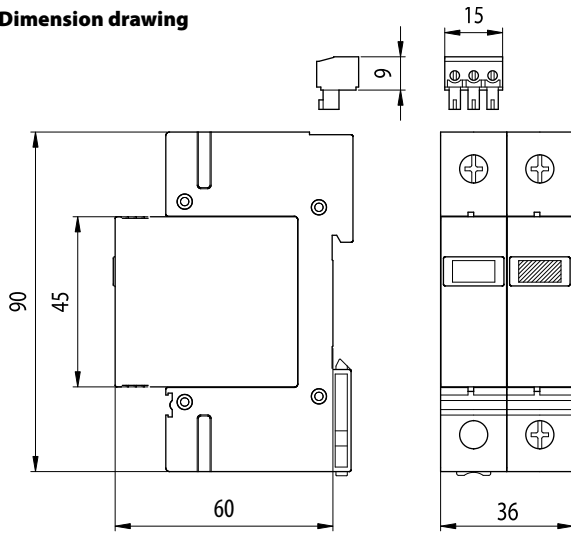
SPD type 1 and type 2

Replaceable module, visual fault signalling

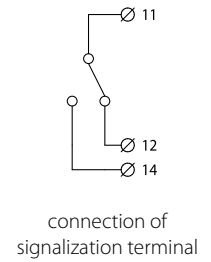
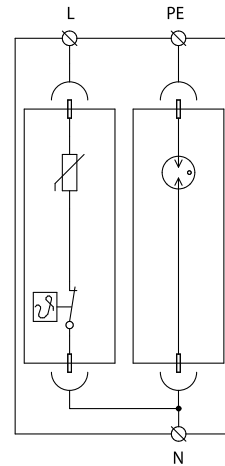
Combination of 1-pole varistor surge protection and an encapsulated spark gap connected in the mode 1+1. To be installed in low-voltage distributions at the boundary of LPZ O_B and LPZ 1 zones to protect distributions and equipment against the overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)	I_n	30 kA	20 kA
Maximum discharge current (8/20 μ s)	I_{max}	60 kA	40 kA
Lighting impulse current (10/350 μ s)	I_{imp}	8 kA	25 kA
Voltage protection level	U_p	1,2 kV	1,5 kV
Response time	t_a	25 ns	25 ns
Ability to independently switch off the following current	I_{si}	no following current	100 A
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	—
Maximum overcurrent protection		160 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	ne
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11 \square \square	EN 61643-11 + A11 \square \square
Ordering number		FLP-275 V/1+1	8595090533085
		FLP-275 V/1S+1	8595090533092

FLP-275 V/3+1

FLP-275 V/3S+1

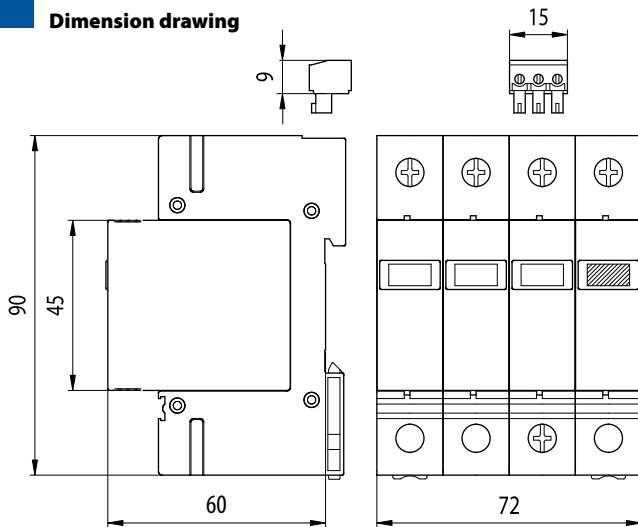
SPD type 1 and type 2

Replaceable module, visual fault signalling

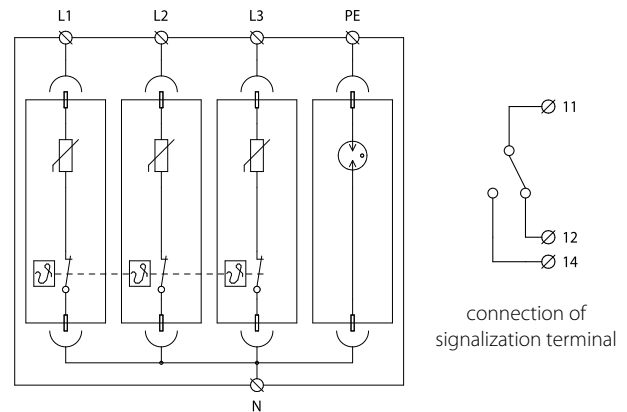
Combination of 3-pole varistor surge protection and an encapsulated spark gap connected in the mode 3+1. To be installed in low-voltage distributions at the boundary of LPZ 0_B and LPZ 1 zones to protect distributions and equipment against the overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)/pole	I_n	30 kA	20 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	60 kA	40 kA
Lighting impulse current (10/350 μ s)/pole	I_{imp}	8 kA	25 kA
Voltage protection level	U_p	1,2 kV	1,5 kV
Response time	t_a	25 ns	100 ns
Ability to independently switch off the following current	I_g	no following current	100 A
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	—
Maximum overcurrent protection		160 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	no
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		FLP-275 V/3+1	8595090531128
		FLP-275 V/3S+1	8595090531135

SLP-075 V
SLP-130 V
SLP-275 V
SLP-385 V
SLP-440 V
SLP-600 V

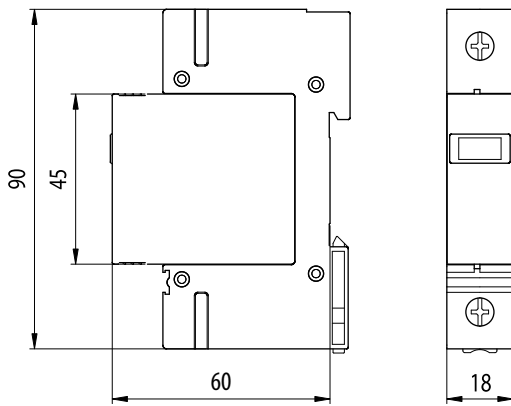
SPD type 2 – surge arrester

Replaceable varistor module,
 visual fault signalling

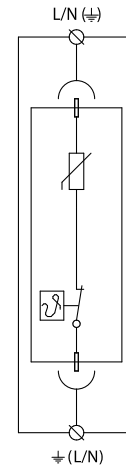
Varistor surge protection to be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones to protect the distributions and equipment against overvoltage effects induced during a lightning strike and to prevent switching overvoltage.



Dimension drawing



Basic circuit diagram



Technical data

		SLP-075 V	SLP-130 V	SLP-275 V	SLP-385 V	SLP-440 V	SLP-600 V
Nominal voltage	U_n	—	110 V AC	230 V AC	—	400 V AC	—
Maximum operating voltage	U_c	75 V AC / 100 V DC	130 V AC / 170 V DC	275 V AC / 350 V DC	385 V AC / 500 V DC	440 V AC / 585 V DC	600 V AC
Maximum operating voltage of varistor		—	—	—	—	—	880 V AC
Nominal discharge current (8/20 μ s)	I_n	15 kA	15 kA	20 kA	20 kA	20 kA	15 kA
Maximum discharge current (8/20 μ s)	I_{max}	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Voltage protection level @ $I = 5$ kA (8/20 μ s)	U_p	0,3 kV	0,45 kV	0,9 kV	1,3 kV	1,5 kV	2,7 kV
Voltage protection level	U_p	0,4 kV	0,6 kV	1,2 kV	1,8 kV	1,9 kV	3,2 kV
Response time	t_a	25 ns	25 ns	25 ns	25 ns	25 ns	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	35 kA _{rms}	35 kA _{rms}	35 kA _{rms}	35 kA _{rms}	35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG
Degree of protection		IP 20					
Range of operating temperatures		–40 °C ... +80 °C					
Mounting on		DIN rail 35 mm					
Cross-section of connected conductors							
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1					
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2					
Stripping length of the supply conductor		14 mm					
Tightening torque		max. 4 Nm					
Fault indication		red indication field					
Meets the requirements of standard		EN 61643-11 + A11					
Ordering number		8595090518150	8595090518167	8595090516170	8595090519553	8595090518174	8595090533016

SLP-075 VS
SLP-130 VS
SLP-275 VS
SLP-385 VS
SLP-440 VS
SLP-600 VS

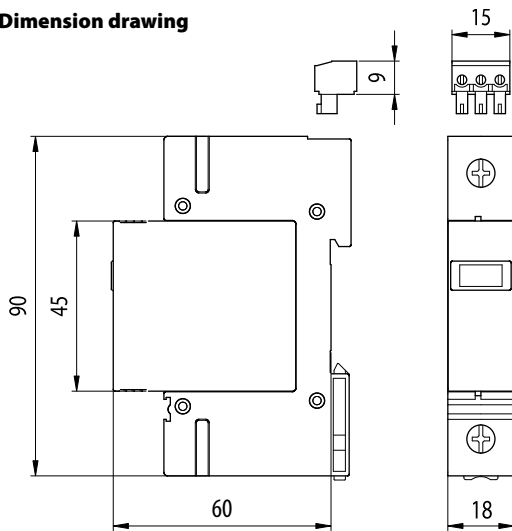
SPD type 2 – surge arrester

Replaceable varistor module,
 visual fault signalling

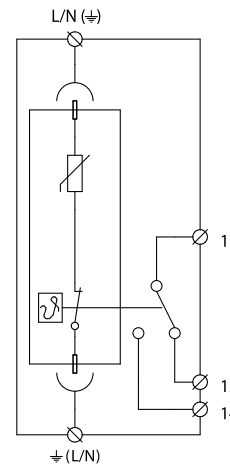
Varistor surge protection to be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones to protect the distributions and equipment against overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		SLP-075 VS	SLP-130 VS	SLP-275 VS	SLP-385 VS	SLP-440 VS	SLP-600 VS
Nominal voltage	U_n	—	110 V AC	230 V AC	—	400 V AC	—
Maximum operating voltage	U_c	75 V AC / 100 V DC	130 V AC / 170 V DC	275 V AC / 350 V DC	385 V AC / 500 V DC	440 V AC / 585 V DC	600 V AC
Maximum operating voltage of varistor		—	—	—	—	—	880 V AC
Nominal discharge current (8/20 μ s)	I_n	15 kA	15 kA	20 kA	20 kA	20 kA	15 kA
Maximum discharge current (8/20 μ s)	I_{max}	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Voltage protection level @ $I = 5$ kA (8/20 μ s)	U_p	0,3 kV	0,45 kV	0,9 kV	1,3 kV	1,5 kV	2,7 kV
Voltage protection level	U_p	0,4 kV	0,6 kV	1,2 kV	1,8 kV	1,9 kV	3,2 kV
Response time	t_d	25 ns	25 ns	25 ns	25 ns	25 ns	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	35 kA _{rms}	35 kA _{rms}	35 kA _{rms}	35 kA _{rms}	35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG
Degree of protection		IP 20					
Range of operating temperatures		-40 °C ... +80 °C					
Mounting on		DIN rail 35 mm					
Cross-section of connected conductors							
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1					
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2					
Stripping length of the supply conductor		14 mm					
Tightening torque		max. 4 Nm					
Fault indication		red indication field					
Remote indication		potential-free change-over contact					
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC					
Cross-section of remote indication conductors		max. 1,5 mm ²					
Meets the requirements of standard		EN 61643-11 + A11					
Ordering number		8595090518235	8595090518242	8595090516187	8595090527718	8595090518259	8595090533023

SLP-275 V/3

SLP-275 V/3S

SPD type 2 – surge arrester

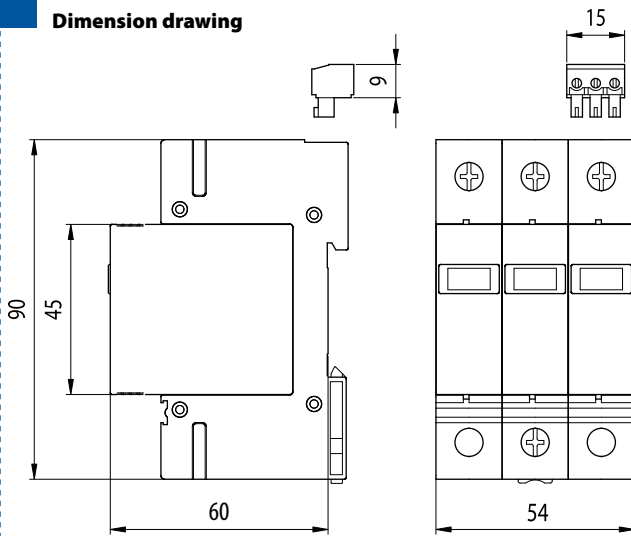
Replaceable varistor module, visual fault signalling

3-pole varistor surge protection to be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones to protect the distributions and equipment against overvoltage effects induced during a lightning strike and to prevent switching overvoltage.

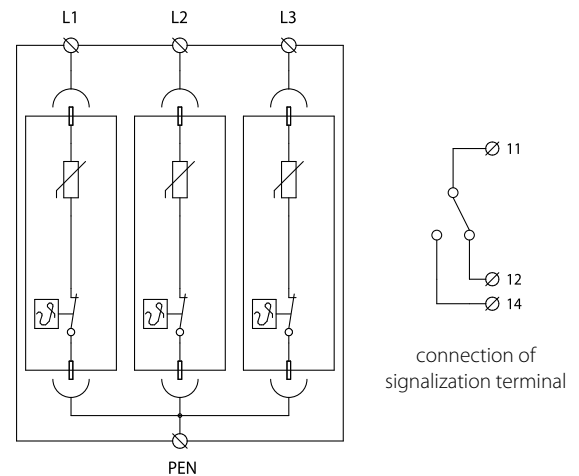
Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		SLP-275 V/3
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)/pole	I_n	20 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	40 kA
Voltage protection level @ $I = 5$ kA (8/20 μ s)	U_p	0,9 kV
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	SLP-275 V/3	8595090517603
	SLP-275 V/3S	8595090517610

SLP-275 V/4 SLP-275 V/4S

SPD type 2 – surge arrester

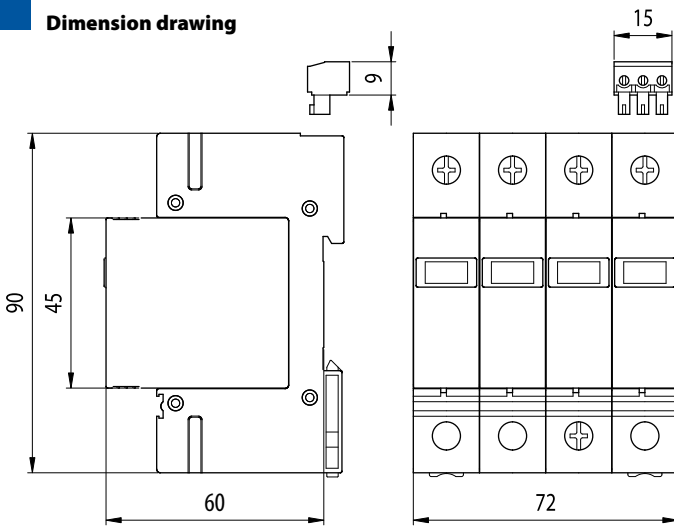
Replaceable varistor module, visual fault signalling

4-pole varistor surge protection to be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones to protect the distributions and equipment against overvoltage effects induced during a lightning strike and to prevent switching overvoltage.

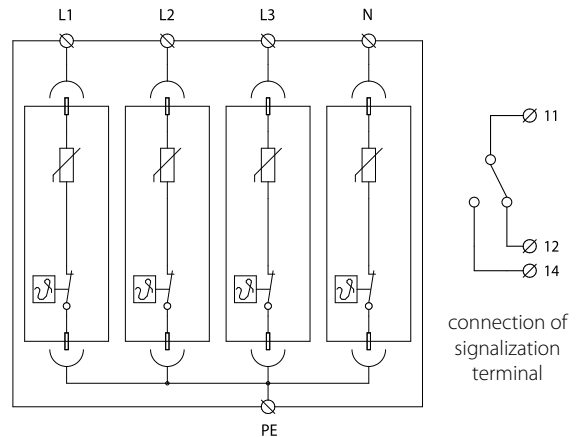
Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		SLP-275 V/4
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)/pole	I_n	20 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	40 kA
Voltage protection level @ $I = 5$ kA (8/20 μ s)	U_p	0,9 kV
Voltage protection level	U_p	1,2 kV
Response time	t_a	25 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}
Maximum overcurrent protection		160 A gL/gG
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm
Tightening torque		max. 4 Nm
Fault indication		red indication field
Remote indication – S design		potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		max. 1,5 mm ²
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	SLP-275 V/4	8595090517221
	SLP-275 V/4S	8595090517634

SLP-275 V/1+1

SLP-275 V/1S+1

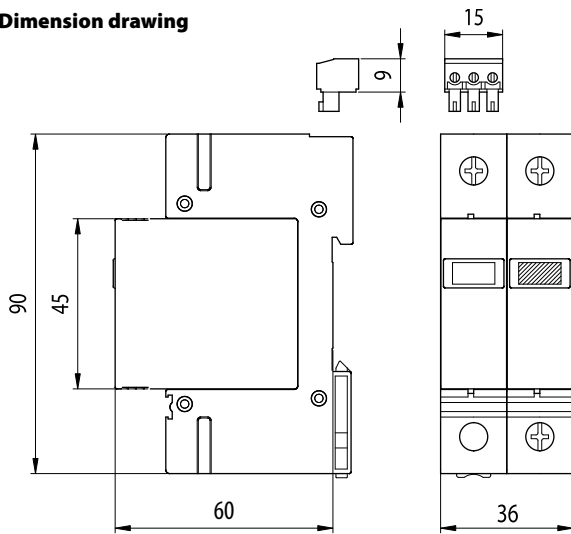
SPD type 2 – surge arrester

Replaceable module, visual fault signalling

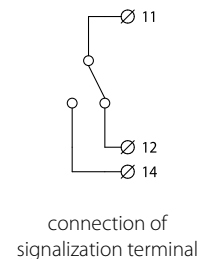
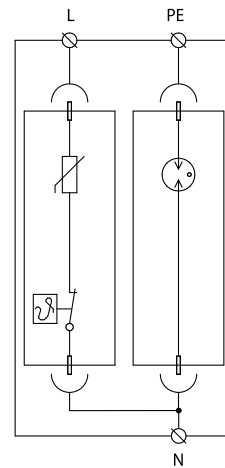
Combination of varistor surge protection and an encapsulated spark gap connected in the mode 1+1. To be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones to protect distributions and equipment against the overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)	I_n	20 kA	20 kA
Maximum discharge current (8/20 μ s)	I_{max}	40 kA	40 kA
Voltage protection level @ $I = 5$ kA (8/20 μ s)	U_p	0,9 kV	—
Voltage protection level	U_p	1,2 kV	1,5 kV
Response time	t_a	25 ns	100 ns
Ability to independently switch off the following current	I_n	no following current	100 A
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	—
Maximum overcurrent protection		160 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	no
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number	SLP-275 V/1+1	8595090519485	
	SLP-275 V/1S+1	8595090524915	

SLP-275 V/3+1 SLP-275 V/3S+1

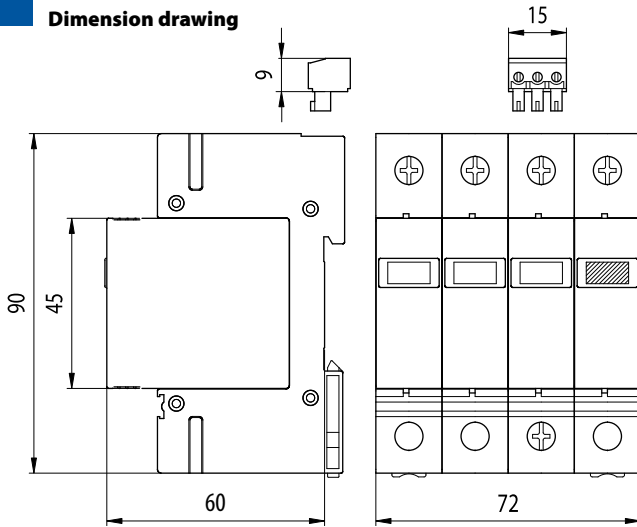
SPD type 2 – surge arrester

Replaceable module, visual fault signalling

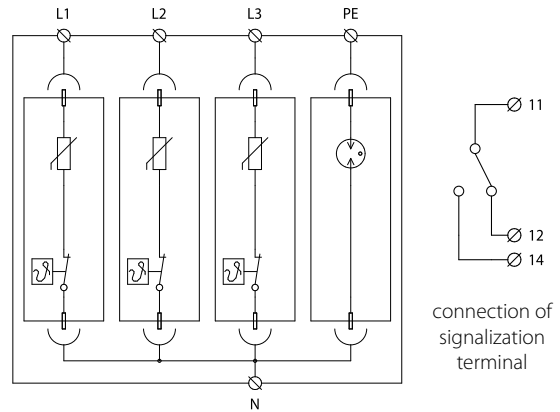
Combination of 3-pole varistor surge protection and an encapsulated spark gap connected in the mode 3+1. To be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones to protect distributions and equipment against the overvoltage effects induced during a lightning strike and to prevent switching overvoltage. Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)/pole	I_n	20 kA	20 kA
Maximum discharge current (8/20 μ s)/pole	I_{max}	40 kA	40 kA
Voltage protection level @ $I = 5$ kA (8/20 μ s)	U_p	0,9 kV	—
Voltage protection level	U_p	1,2 kV	1,5 kV
Response time	t_a	25 ns	100 ns
Ability to independently switch off the following current	I_n	no following current	100 A
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	—
Maximum overcurrent protection		160 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	no
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number	SLP-275 V/3+1	8595090519461	
	SLP-275 V/3S+1	8595090520023	

SLP-075 VB SLP-130 VB SLP-275 VB

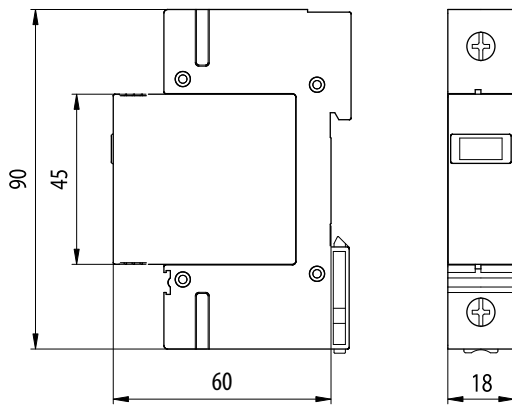
SPD type 2 – surge arrester

Replaceable module, visual fault signalling

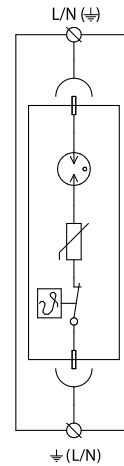
Efficient varistor connected in series with an encapsulated spark gap. To be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones. Designed to protect distributions and equipment against the overvoltage effects induced during a lightning strike and to prevent switching overvoltage in areas with higher storm activity or to protect measuring circuits as a 1st protection level. In idle state it has very little leakage current, which remains stable for the duration of the service life; protective elements are not subject to ageing.



Dimension drawing



Basic circuit diagram



Technical data

		SLP-075 VB	SLP-130 VB	SLP-275 VB
Nominal voltage	U_n	—	110 V AC	230 V AC
Maximum operating voltage	U_c	75 V AC / 100 V DC	130 V AC / 170 V DC	275 V AC / 350 V DC
Nominal discharge current (8/20 μ s)	I_n	15 kA	20 kA	20 kA
Maximum discharge current (8/20 μ s)	I_{max}	25 kA	25 kA	25 kA
Lighting impulse current (10/350 μ s)		2,5 kA	2,5 kA	2,5 kA
Voltage protection level @ $I = 5$ kA (8/20 μ s)	U_p	0,3 kV	0,5 kV	0,9 kV
Voltage protection level	U_p	0,6 kV	0,7 kV	1,2 kV
Response time	t_a	100 ns	100 ns	100 ns
Short-circuit proof at maximum overcurrent protection		35 kA _{rms}	35 kA _{rms}	35 kA _{rms}
Maximum overcurrent protection		125 A gL/gG	125 A gL/gG	125 A gL/gG
Degree of protection		IP 20	IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors				
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm	max. 4 Nm
Fault indication		red indication field	red indication field	red indication field
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090521556	8595090521822	8595090519447

DA-075 DJ
DA-130 DJ
DA-275 DJ

SPD type 3 – surge arrester

Visual fault signalling

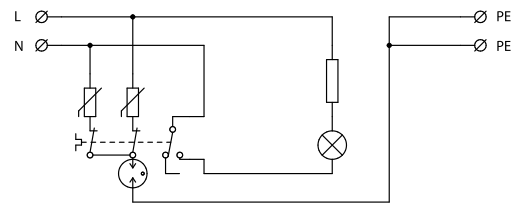
Surge protection designed to protect all types of electric and electronic equipment connected to a low-voltage distribution against pulse overvoltage.



Dimension drawing



Basic circuit diagram



Technical data

		DA-075 DJ	DA-130 DJ	DA-275 DJ
Nominal voltage	U_n	—	110 V AC	230 V AC
Maximum operating voltage	U_c	75 V AC	130 V AC	275 V AC
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	2 kA, 2 kA, 4 kA	2,5 kA, 2,5 kA, 5 kA	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	4 kV, 4 kV, 8 kV	5 kV, 5 kV, 10 kV	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	0,4 kV, 1,2 kV	0,6 kV, 1,5 kV	1,2 kV, 1,6 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns	25 ns, 100 ns	25 ns, 100 ns
Short-circuit proof at maximum overcurrent protection		6 kA _{rms}	6 kA _{rms}	6 kA _{rms}
Maximum overcurrent protection		16 A gL/gG; C 16 A	16 A gL/gG; C 16 A	16 A gL/gG; C 16 A
Degree of protection		IP 20	IP 20	IP 20
Range of operating temperatures		- 40 °C ... + 80 °C	- 40 °C ... + 80 °C	- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors				
Solid max		ISO: 6 mm ² ; AWG: 10	ISO: 6 mm ² ; AWG: 10	ISO: 6 mm ² ; AWG: 10
Stranded max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Tightening torque		max. 0,6 Nm	max. 0,6 Nm	max. 0,6 Nm
Fault indication		red indicator	red indicator	red indicator
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090521891	8595090521891	8595090506362

DA-275 V/1+1 DA-275 V/1S+1

SPD type 3 – surge arrester

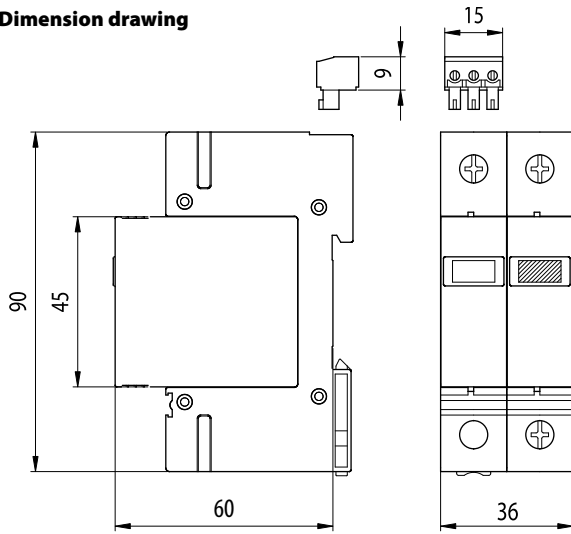
Replaceable module, visual fault signalling

Combination of varistor surge protection and an encapsulated spark gap connected in the mode 1+1. To be installed in low-voltage distributions at the boundary of LPZ 2 and LPZ 3 zones to protect distributions and equipment against overvoltage effects induced during a lightning strike and to prevent switching overvoltage.

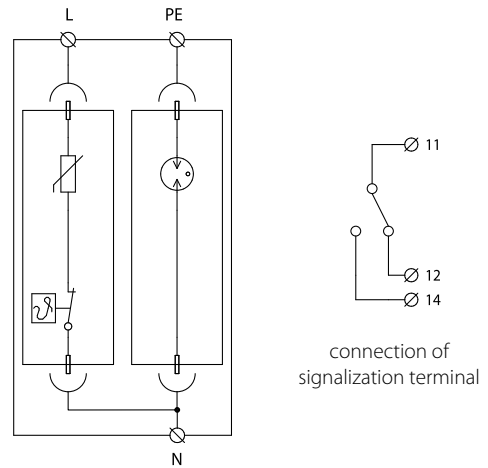
Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technical data

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)	I_n	5 kA	10 kA
Test voltage	U_{oc}	10 kV	20 kV
Voltage protection level	U_p	1 kV	1,5 kV
Response time	t_a	25 ns	100 ns
Maximum overcurrent protection		63 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		- 40 °C ... + 80 °C	- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	no
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number	DA-275 V/1+1	8595090518723	
	DA-275 V/1S+1	8595090519751	

DA-275 V/3+1

DA-275 V/3S+1

SPD type 3 – surge arrester

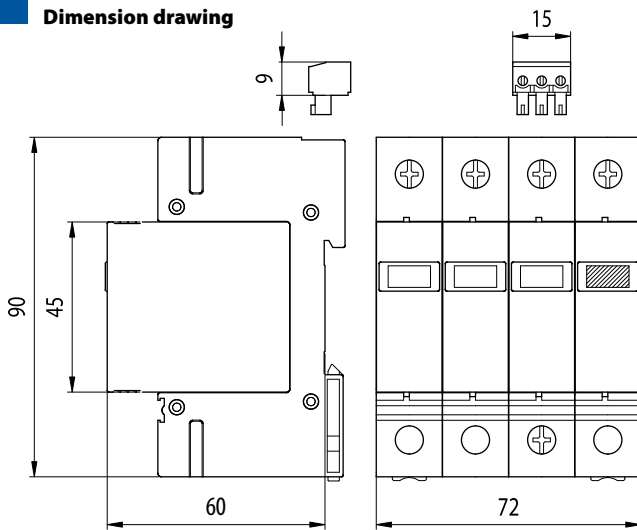
Replaceable module, visual fault signalling

Combination of 3-pole varistor surge protection and an encapsulated spark gap connected in the mode 3+1. To be installed in low-voltage distributions at the boundary of LPZ 2 and LPZ 3 zones to protect distributions and equipment against overvoltage effects induced during a lightning strike and to prevent switching overvoltage.

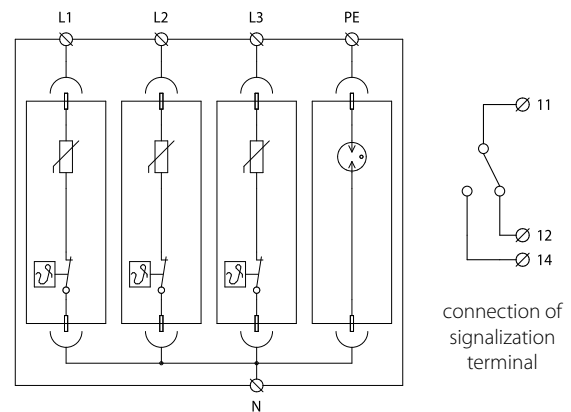
Optional remote status signalling (S).



Dimension drawing



Basic circuit diagram



Technické parametry

		L-N	N-PE
Nominal voltage	U_n	230 V AC	—
Maximum operating voltage	U_c	275 V AC	255 V AC
Nominal discharge current (8/20 μ s)/pole	I_n	5 kA	10 kA
Test voltage	U_{oc}	10 kV	20 kV
Voltage protection level	U_p	1 kV	1,5 kV
Response time	t_a	25 ns	100 ns
Maximum overcurrent protection		63 A gL/gG	—
Degree of protection		IP 20	IP 20
Range of operating temperatures		- 40 °C ... + 80 °C	- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm
Fault indication		red indication field	no
Remote indication – S design		potential-free change-over contact	—
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	—
Cross-section of remote indication conductors		max. 1,5 mm ²	—
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number	DA-275 V/3+1	8595090518488	
	DA-275 V/3S+1	8595090518495	

DA-275 DF 2

DA-275 DF 6

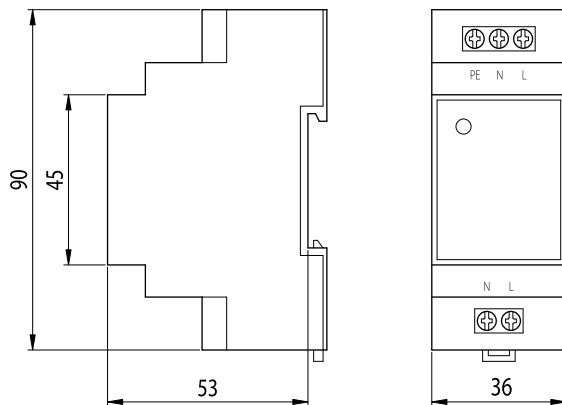
SPD type 3 – surge arrester with RFI filter

Visual fault signalling

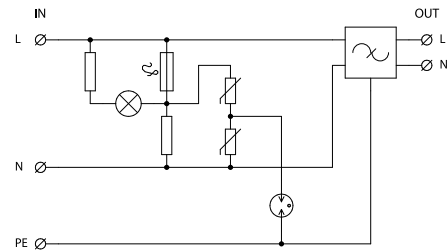
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technické parametry

		DA-275 DF2	DA-275 DF6
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage	U_c	275 V AC	275 V AC
Nominal load current	I_L	2 A	6 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	2 kA, 2 kA, 4 kA	2 kA, 2 kA, 4 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	4 kV, 4 kV, 8 kV	4 kV, 4 kV, 8 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns	25 ns, 100 ns
Maximum overcurrent protection		2 A gL/gG nebo C 2 A	6 A gL/gG nebo C 6 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB	30 dB
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13	ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm	max. 0,6 Nm
Fault indication		red indicator	red indicator
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090506706	8595090506713

DA-275 DF 2 S

DA-275 DF 6 S

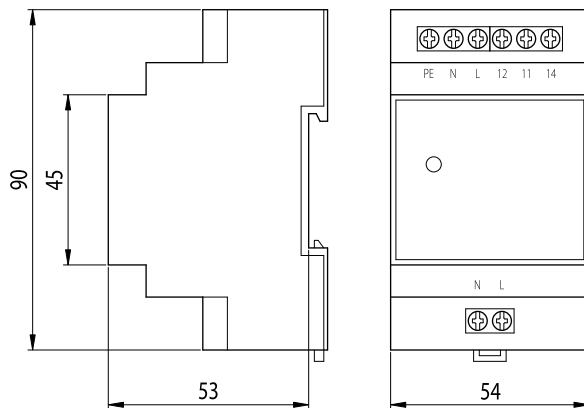
SPD type 3 – surge arrester with RFI filter

Remote and visual fault signalling

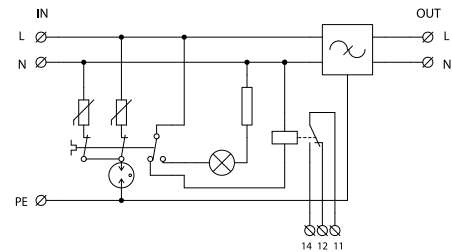
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 DF2 S	DA-275 DF6 S
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage	U_c	275 V AC	275 V AC
Nominal load current	I_L	2 A	6 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	3 kA, 3 kA, 5 kA	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	6 kV, 6 kV, 10 kV	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns	25 ns, 100 ns
Maximum overcurrent protection		2 A gL/gG nebo C 2 A	6 A gL/gG nebo C 6 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB	30 dB
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13	ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm	max. 0,6 Nm
Fault indication		red indicator	red indicator
Remote indication – S design		potential-free change-over contact	potential-free change-over contact
Remote indication contacts		AC: 250 V / 0,5 A; DC: 250 V / 0,1 A	AC: 250 V / 0,5 A; DC: 250 V / 0,1 A
Cross-section of connected conductors			
Solid max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13	ISO: 2,5 mm ² ; AWG: 13
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090516248	8595090516255

DA-275 DF 10

DA-275 DF 16

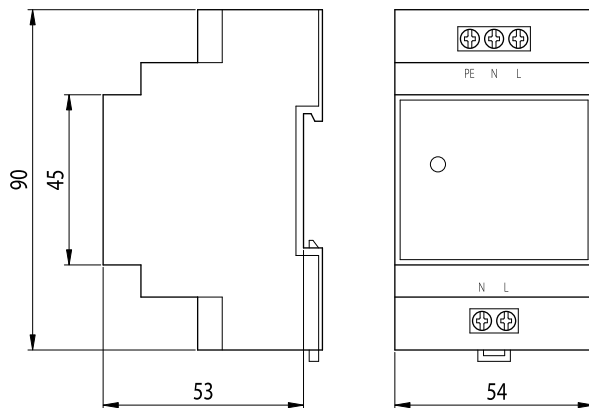
SPD type 3 – surge arrester with RFI filter

Visual fault signalling

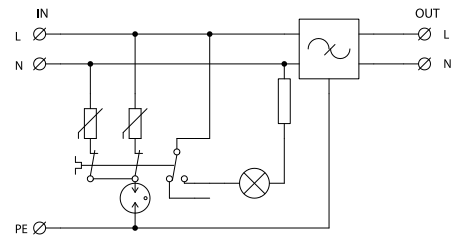
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 DF10	DA-275 DF16
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage	U_c	275 V AC	275 V AC
Nominal load current	I_L	10 A	16 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	3 kA, 3 kA, 5 kA	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	6 kV, 6 kV, 10 kV	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns	25 ns, 100 ns
Maximum overcurrent protection		10 A gL/gG nebo C10 A	16 A gL/gG nebo C16 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB	30 dB
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13	ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm	max. 0,6 Nm
Fault indication		red indicator	red indicator
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090506720	8595090506737

DA-275 DF 10 S

DA-275 DF 16 S

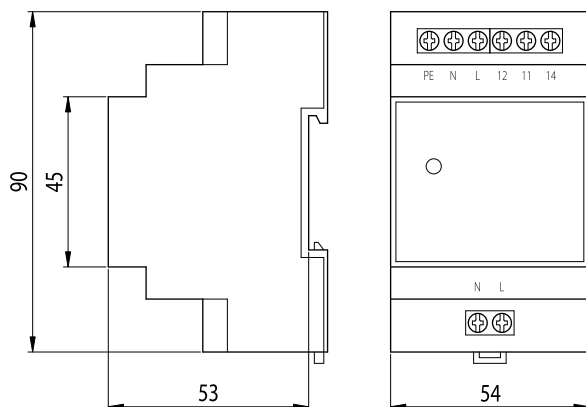
SPD type 3 – surge arrester with RFI filter

Remote fault signalling

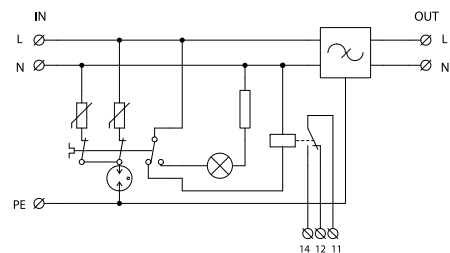
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 DF10 S	DA-275 DF16 S
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage	U_c	275 V AC	275 V AC
Nominal load current	I_L	10 A	16 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	3 kA, 3 kA, 5 kA	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	6 kV, 6 kV, 10 kV	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns	25 ns, 100 ns
Maximum overcurrent protection		10 A gL/gG nebo C10 A	16 A gL/gG nebo C16 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB	30 dB
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13	ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm	max. 0,6 Nm
Fault indication		red indicator	red indicator
Remote indication		potential-free change-over contact	potential-free change-over contact
Remote indication contacts		AC: 250 V / 0,5 A; DC: 250 V / 0,1 A	AC: 250 V / 0,5 A; DC: 250 V / 0,1 A
Cross-section of connected conductors			
Solid max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13	ISO: 2,5 mm ² ; AWG: 13
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090516262	8595090516279

DA-275 DFI 1

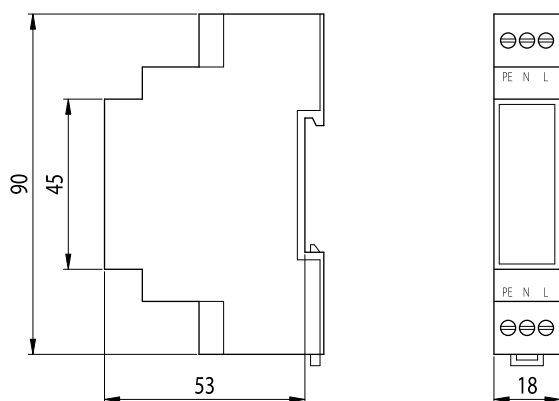
SPD type 3 – surge arrester with RFI filter

Fault signalling due to supply interruption

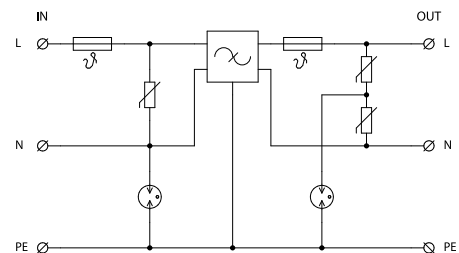
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 DFI 1
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal load current	I_L	1 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE	I_n	1,5 kA, 1,5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	3 kV, 3 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,2 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Maximum overcurrent protection		1 A gL/gG nebo C 1 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		50 dB
Degree of protection		IP 20
Range of operating temperatures		- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid max		ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm
Fault indication		supply interruption
Remote indication		no
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090512059

DA-275 DFI 6

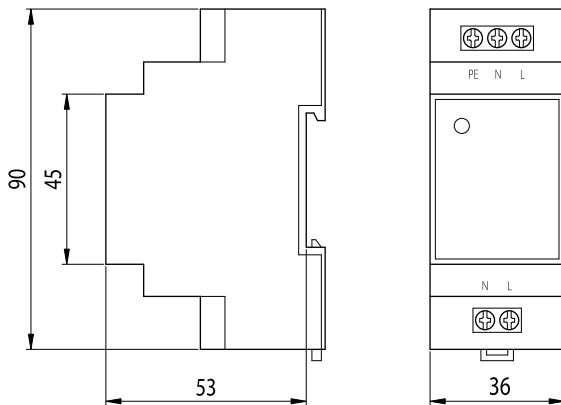
SPD type 3 – surge arrester with RFI filter

Fault signalling due to supply interruption,
visual fault signalling

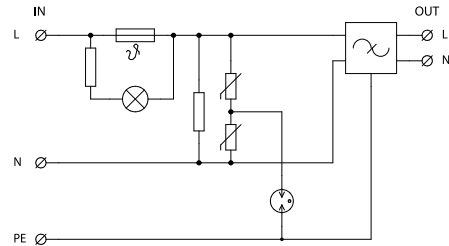
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 DFI 6
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal load current	I_L	6 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	2 kA, 2 kA, 4 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	4 kV, 4 kV, 8 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Maximum overcurrent protection		6 A gL/gG nebo C 6 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid max		ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm
Fault indication		red indicator, supply interruption
Remote indication		no
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090508205

DA-275 DFI 10

DA-275 DFI 16

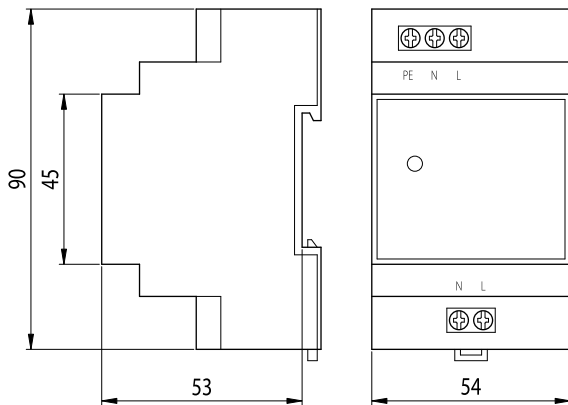
SPD type 3 – surge arrester with RFI filter

Fault signalling due to supply interruption,
visual fault signalling

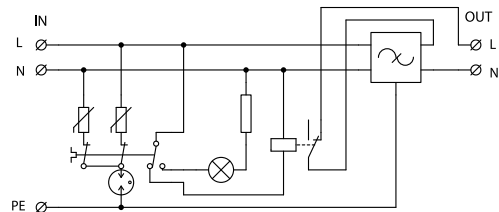
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 DFI 10	DA-275 DFI 16
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage	U_c	275 V AC	275 V AC
Nominal load current	I_L	10 A	16 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	3 kA, 3 kA, 5 kA	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	6 kV, 6 kV, 10 kV	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns	25 ns, 100 ns
Maximum overcurrent protection		10 A gL/gG nebo C10 A	16 A gL/gG nebo C16 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB	30 dB
Degree of protection		IP 20	IP 20
Range of operating temperatures		-40 °C ... +80 °C	-40 °C ... +80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors			
Solid max		ISO: 4 mm ² ; AWG: 11	ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13	ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm	max. 0,6 Nm
Fault indication		red indicator, supply interruption	red indicator, supply interruption
Remote indication		no	no
Meets the requirements of standard		EN 61643-11 + A11	EN 61643-11 + A11
Ordering number		8595090507949	8595090507956

DA-400 DF 16

DA-400 DF 16 S

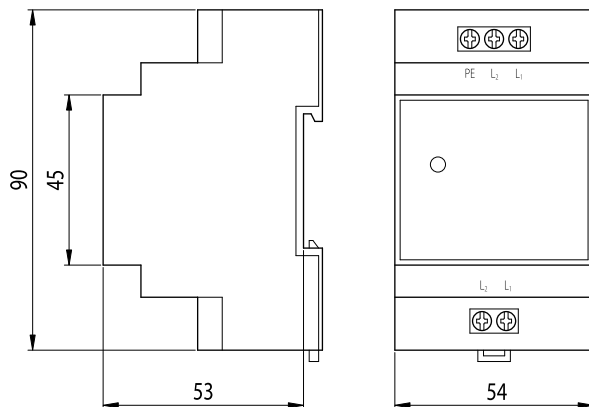
SPD type 3 – surge arrester with RFI filter

Visual fault signalling,
optional remote fault signalling

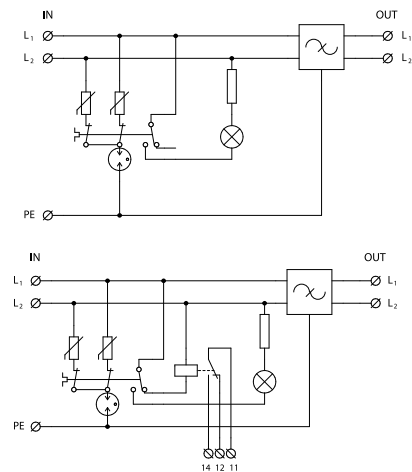
Surge protection with an integrated RFI filter designed to protect pro M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance for two-phase power supply.



Dimension drawing



Basic circuit diagram



Technical data

		DA-400 DF16
Nominal voltage	U_n	400 V AC
Maximum operating voltage	U_c	440 V AC
Nominal load current	I_L	16 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	1,6 kV, 1,4 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Maximum overcurrent protection		16 A gL/gG nebo C16 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid max		ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm
Fault indication		red indicator
Remote indication – S design		potential-free change-over contact
Remote indication contacts		AC: 250 V / 0,5 A; DC: 250 V / 0,1 A
Cross-section of connected conductors		
Solid max		ISO: 4 mm ² ; AWG: 11
Stranded max		ISO: 2,5 mm ² ; AWG: 13
Meets the requirements of standard		EN 61643-11 + A11
Ordering number	DA-400 DF 16	8595090515074
	DA-400 DF 16 S	8595090525660

DA-275 DF 25

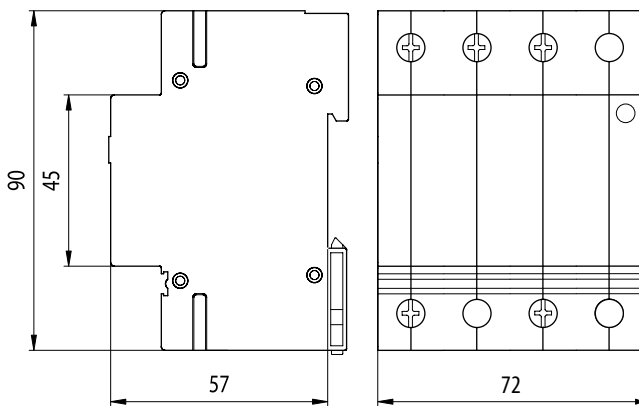
SPD type 3 – surge arrester with RFI filter

Visual fault signalling

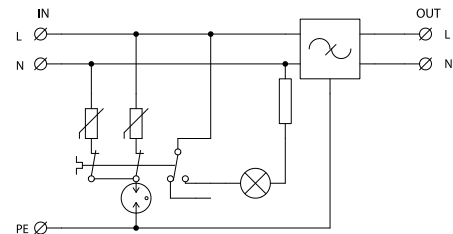
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 DF25
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal load current	I_L	25 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Maximum overcurrent protection		25 A gL/gG nebo C25 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm
Cross-section of connected conductors		
Solid max		ISO: 1/50 mm ² ; AWG: 17/1
Stranded max		ISO: 1/35 mm ² ; AWG: 17/2
Tightening torque		max. 4 Nm
Fault indication		red indicator
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090537328

DA-275 BFG

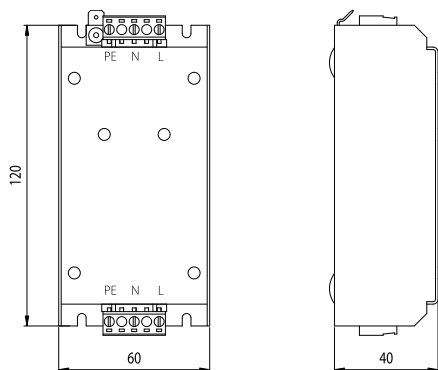
SPD type 3 – surge arrester with RFI filter in a metal bushing

Visual fault signalling, earth terminal, class I.

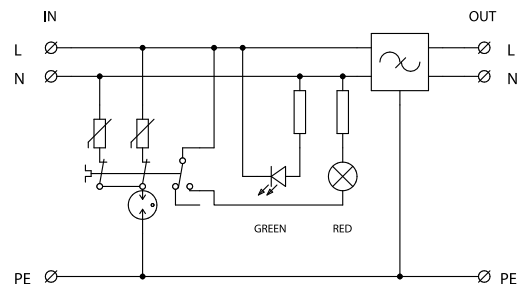
Surge protection with an integrated RFI filter designed to protect M&C, ESS, EFS, etc. control systems against pulse overvoltage and RF disturbance.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 BFG
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal load current	I_L	16 A
Nominal discharge current (8/20 μ s) L-N, L(N)-PE, L+N-PE	I_n	3 kA, 3 kA, 5 kA
Test voltage L-N, L(N)-PE, L+N-PE	U_{oc}	6 kV, 6 kV, 10 kV
Voltage protection level L-N, L(N)-PE	U_p	1,2 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Maximum overcurrent protection		16 A gL/gG nebo C16 A
Filter attenuation at 1 MHz (50 Ω /50 Ω) unsymmetrical		30 dB
Degree of protection		IP 20
Range of operating temperatures		-40 °C ... +80 °C
Mounting on		DIN rail 35 mm, surface on the desk
Cross-section of connected conductors		
Solid max		ISO: 2,5 mm ² ; AWG: 13
Stranded max		ISO: 2,5 mm ² ; AWG: 13
Tightening torque		max. 0,6 Nm
Fault indication		red indicator
Remote indication		no
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090506294

CZ-275 A

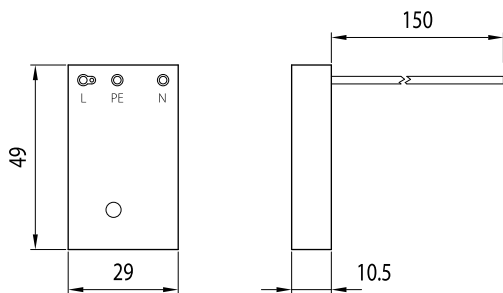
SPD type 3 – surge arrester

acoustic fault signalling

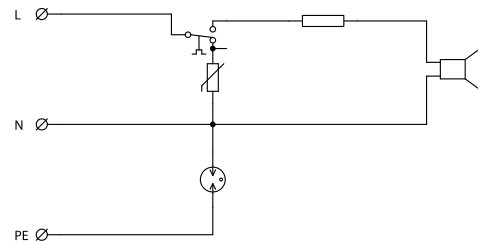
Surge protection for additional installation in devices, equipment, etc. designed to protect all types of low-voltage electric and electronic equipment against pulse overvoltage.



Dimension drawing



Basic circuit diagram



Technical data

		CZ-275 A
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal discharge current (8/20 μ s) L-N, L(N)-PE	I_n	1,5 kA, 1,5 kA
Test voltage L-N, L(N)-PE	U_{oc}	6 kV, 6 kV
Voltage protection level L-N, L(N)-PE	U_p	1,0 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Short-circuit proof at maximum overcurrent protection		6 kA _{15m}
Maximum overcurrent protection		16 A gL/gG or C16 A
TOV 5s L-N		335 V
TOV 5s L-PE		400 V
TOV 200 mS L-PE		1430 V
Degree of protection		IP 20
Range of operating temperatures		- 25 °C ... + 40 °C
Mounting		installation box
Fault indication		acoustic signalling
Remote indication		no
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090529484

CZ-275 S

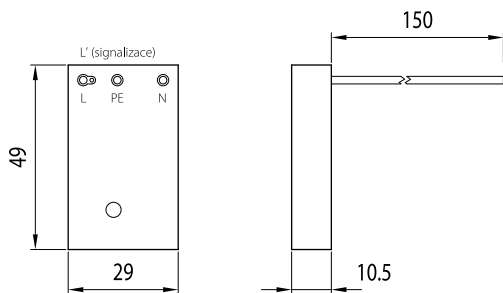
SPD type 3 – surge arrester

Remote fault signalling

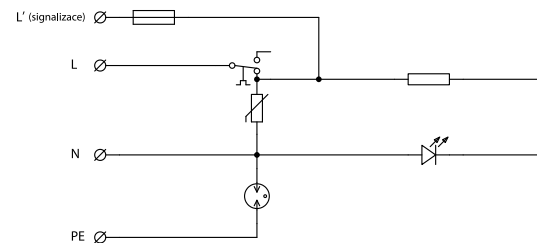
Surge protection for additional installation in devices, equipment, etc. designed to protect all types of low-voltage electric and electronic equipment against pulse overvoltage.



Dimension drawing



Basic circuit diagram



Technical data

		CZ-275 S
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal discharge current (8/20 μ s) L-N, L(N)-PE	I_n	1,5 kA, 1,5 kA
Test voltage L-N, L(N)-PE	U_{oc}	6 kV, 6 kV
Voltage protection level L-N, L(N)-PE	U_p	1,0 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Short-circuit proof at maximum overcurrent protection		6 kA _{rms}
Maximum overcurrent protection		16 A gL/gG or C16 A
Degree of protection		IP 20
Range of operating temperatures		- 25 °C ... + 40 °C
Mounting		installation box
Fault indication		LED is not on
Remote indication		conductor voltage L
Max. current signalization		1 A
Meets the requirements of standard		EN 61643-11 + A11
Ordering number		8595090529491

DA-275 PP1 TANGO

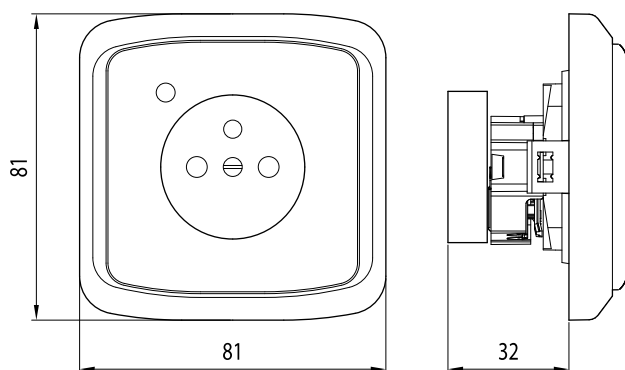
SPD type 3 – surge arrester

Visual fault signalling

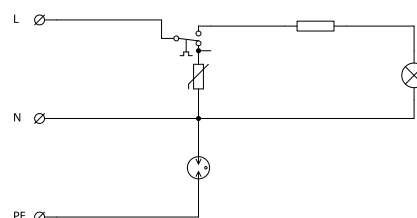
Surge protection designed to protect all types of low-voltage electric and electronic equipments against pulse overvoltage. It is installed into mounting boxes or gutters min. 40 mm deep. Different designs and colours optional.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 PP1 TANGO
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal discharge current (8/20 μ s) L-N, L(N)-PE	I_n	1,5 kA, 1,5 kA
Test voltage L-N, L(N)-PE	U_{oc}	6 kV, 6 kV
Voltage protection level L-N, L(N)-PE	U_p	1,0 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Short-circuit proof at maximum overcurrent protection		6 kA _{rsm}
Maximum overcurrent protection		16 A gL/gG nebo C16 A
TOV 5 s L-N		335 V
TOV 5 s L-PE		400 V
TOV 200 ms L-PE		1430 V
Degree of protection		IP 20
Range of operating temperatures		- 25 °C ... + 40 °C
Mounting on		intermediate adaptor socket
Fault indication		optical signalization
Remote indication		no
Meets the requirements of standard		EN 61643-11 + A11

DA-275 PP TANGO

DA-275 PP0 TANGO

DA-275 PP0A TANGO

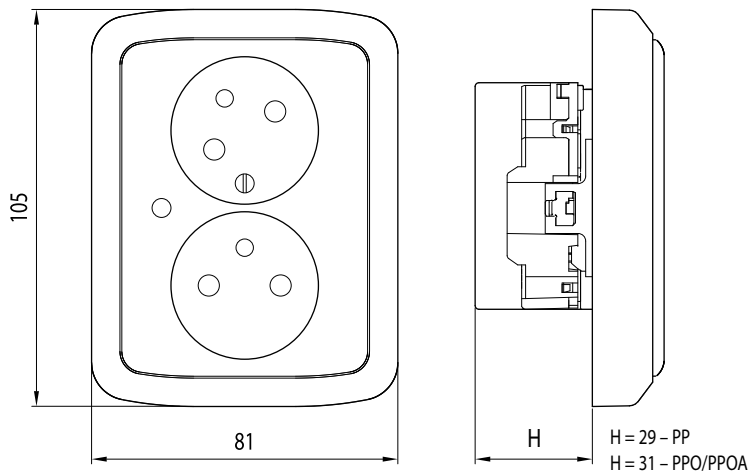
SPD type 3 – surge arrester

optical or acoustic signalization
version – oriented upper socket (30°)

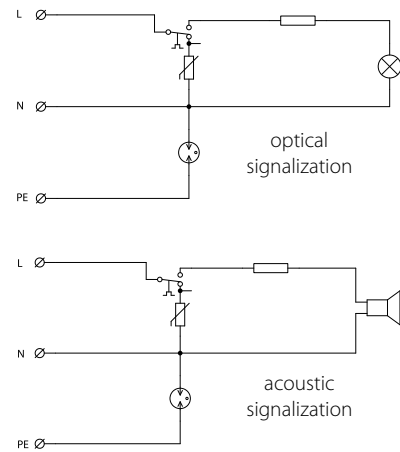
Surge protection designed to protect all types of low-voltage electric and electronic equipments against pulse overvoltage. It is installed into mounting boxes or gutters min. 40 mm deep.



Dimension drawing



Basic circuit diagram



Technical data

		DA-275 PP TANGO
Nominal voltage	U_n	230 V AC
Maximum operating voltage	U_c	275 V AC
Nominal discharge current (8/20 μ s) L-N, L(N)-PE	I_n	1,5 kA, 1,5 kA
Test voltage L-N, L(N)-PE	U_{oc}	6 kV, 6 kV
Voltage protection level L-N, L(N)-PE	U_p	1,0 kV, 1,5 kV
Response time L-N, L(N)-PE	t_a	25 ns, 100 ns
Short-circuit proof at maximum overcurrent protection		6 kA _{rsm}
Maximum overcurrent protection		16 A gL/gG nebo C16 A
TOV 5 s L-N		335 V
TOV 5 s L-PE		400 V
TOV 200 ms L-PE		1430 V
Degree of protection		IP 20
Range of operating temperatures		- 25 °C ... + 40 °C
Mounting on		intermediate adaptor socket
Fault indication		optical/acoustic signalization
Remote indication		no
Meets the requirements of standard		EN 61643-11 + A11

RTO-16

RTO-35

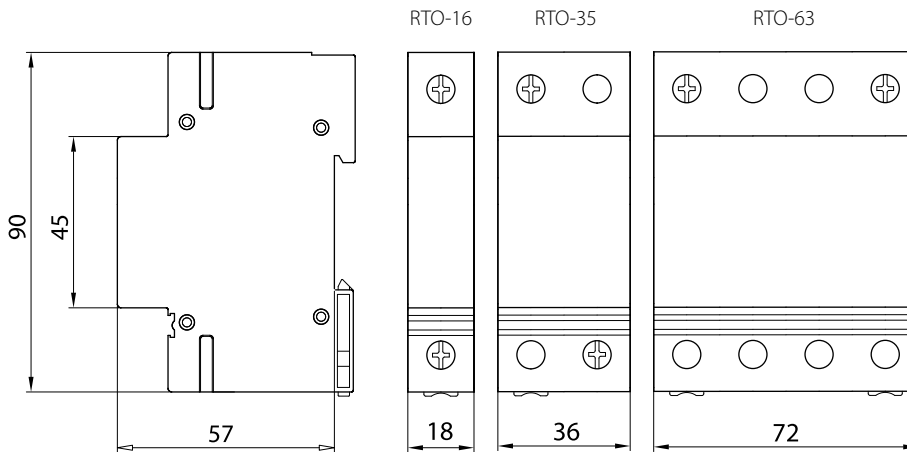
RTO-63

Surge separating inductor

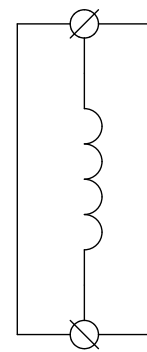
Coupling impedance to secure proper coordination of activities of SPD type 1 and 2 or type 2 and 3.



Dimension drawing



Basic circuit diagram



Technické parametry

		RTO-16	RTO-35	RTO-63
Nominal voltage	U_n	500 V AC	500 V AC	500 V AC
Frequency	f	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
Nominal load current	I_L	16 A	35 A	63 A
Inductivity	L	10 μ H	10 μ H	10 μ H
Power loss at I_L		1,28 W	3 W	8 W
Resistance (DC)		5 m Ω	2,5 m Ω	2 m Ω
Maximum overcurrent protection		16 A gL/gG or C 16 A	35 A gL/gG or C 35 A	63 A gL/gG or C 63 A
Degree of protection		IP 20	IP 20	IP 20
Range of operating temperatures		- 40 °C ... + 80 °C	- 40 °C ... + 80 °C	- 40 °C ... + 80 °C
Mounting on		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
Cross-section of connected conductors				
Solid min/max		ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1	ISO: 1/50 mm ² ; AWG: 17/1
Stranded min/max		ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2	ISO: 1/35 mm ² ; AWG: 17/2
Stripping length of the supply conductor		14 mm	14 mm	14 mm
Tightening torque		max. 4 Nm	max. 4 Nm	max. 4 Nm
Ordering number		8595090514329	8595090514336	8595090514343



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EN 2012/04

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