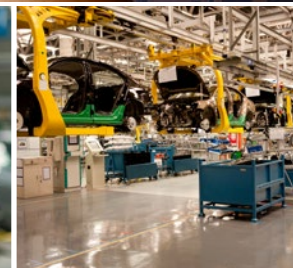


NEWS 2018

Surge Protective Devices

2018



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News 2018

FLP-25-T1-V(S)/..

The SPD range **FLP-25-T1-V** is supplemented with products suitable for single-phase connections of TN-C (TN-C-S), TN-S, and TT supply systems for nominal voltage 230 V AC. These products have a robust construction, do not generate the follow current, do not leak out the leakage current, and have a low residual voltage for proper coordination with other SPDs.



SLP-600 V/3 (S)

The SPD type 2, marked **SLP-600 V/3 (S)**, has been designed to protect devices with a non-harmonic response (frequency converters, wind power plants, etc.) or protect devices connected to the IT supply systems up to the nominal voltage 690 V AC. The connection of these devices is usually implemented with three phase conductors (without the zero conductor) and the PE protective conductor (optionally the PEN one) so that the new three-pole version will make the installation easy.



BDM-...V/., BDG-...V/., BDGHF-...V/., BDMHF-...V.

More and more applications appear outside buildings. Therefore, newly modified SPD of **BDM** and **BDG** series for signal links are modified to comply with the D1 test with the impulse current of the surge 10/350 μ s. Then, the protections are suitable for use both at the entrance of the building and close to the protected device. The SPDs can be used for lines entering the object and also inside the object. For simplicity, we will offer only new BDM and BDG ranges of the SPD with a pluggable module for signal and telecommunication lines, and DM and DMG ranges will be canceled in this design. Their replacements are listed in the table on the page 12–13.



DL-1G-RJ45-60V and DL-10G-RJ45-60V

The SPDs suitable for IP-telephony with ringing or applications without specification whether Ethernet communication or Power over Ethernet (PoE) is applied, but a structured cabling is used up to the Category 6a, and the signal voltage or the supply voltage does not exceed 60 V. These products replace the product DL-Cat.6-60V.



HX-470-N50

The wide-band protection of coaxial power lines with power transmission up to 1.8 kW.



ZX-0,44-N50

A special SPD of coaxial lines based on properties of microwave transmission lines $\lambda/8$ for the frequency band around 440 MHz. This protection has been designed to protect devices against atmospheric phenomena and against static electricity.



SPD tester

The innovated device **GIGATESTpro** for SPD testing and the insulation condition measurement is now a part of the standard SALTEK offer. The tester can be used by customers who need more accurate information about the SPD condition and are not satisfied with a visual interpretation of the condition which is sufficient and required by standards.



Software

Since January 2018, SALTEK products (complete information) are listed into the database of the ePLAN Electrical Engineering Design Software. For data, go to the ePLAN Data Portal or go to www.saltek.eu/en/products-data



Who we are What we do

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

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



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

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

Our own development = foundation of permanent and dynamic company development

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

Flexibility and speed = our basic credo

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

Customers = power engine

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

Quality + international standards = our essentials

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

- EN ISO 9001 ■ EN ISO 14001 ■ OHSAS 18001

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



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



- Office and commercial buildings
- Industrial buildings and installations
- Energy distribution
- Residential buildings
- Smart buildings

- FLP-25-T1-V(S)/..
- SLP-600 V/3 (S)

FLP-25-T1-V(S)/1

SPD type 1 – Lightning current arrester

pluggable module, visual fault signalling, module locking

- one-pole high performance lightning current arrester without follow current
- installation at the boundary of zones LPZ 0 and LPZ 1 or higher, mainly to main distribution boards
- for protection against impact of direct

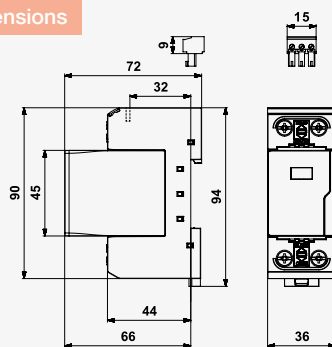
or indirect lightning strikes in wide range of applications – houses, office and industrial buildings

- coordination with SPD type 2 (SLP-275 V) even without surge separating inductors

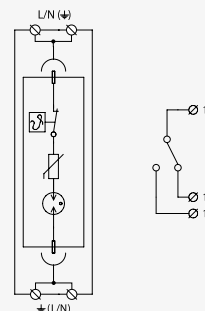
- no leakage current
- optional remote fault signalling (S)



Dimensions



Basic circuit diagram



Parameter / Type		FLP-25-T1-V/1	FLP-25-T1-VS/1
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage	U_c	260 V AC	260 V AC
Nominal load current for "V" connection	I_L	125 A	125 A
Lightning impulse current (10/350 μ s)	I_{imp}	25 kA	25 kA
Voltage protection level	U_p	1.5 kV	1.5 kV
Short-circuit current rating	I_{SCCR}	50 kA	50 kA
Maximum overcurrent protection		250 A gL/gG	250 A gL/gG
Maximum overcurrent protection for "V" connection		125 A gL/gG	125 A gL/gG
Response time	t_a	100 ns	100 ns
Cross-section of connected conductors solid (min/max)		2.5 mm ² / 50 mm ²	2.5 mm ² / 50 mm ²
Cross-section of connected conductors stranded (min/max)		2.5 mm ² / 50 mm ²	2.5 mm ² / 50 mm ²
Fault indication		red indication field	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		–	1.5 mm ²
Degree of protection		IP 20	IP 20
Range of operating temperatures (min/max)		– 40 °C ... + 80 °C	– 40 °C ... + 80 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-11:2012, IEC 61643-11:2011 / T1	EN 61643-11:2012, IEC 61643-11:2011 / T1
Ordering number		8595090562634	8595090562641

Spare module	FLP-25-T1-V/0	FLP-25-T1-V/0
Ordering number	8595090554530	8595090554530

FLP-25-T1-V(S)/2

SPD type 1 – Lightning current arrester

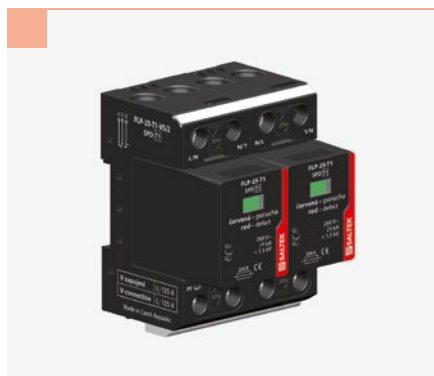
pluggable module, visual fault signalling, module locking

- two-pole high performance lightning current arrester without follow current
- installation at the boundary of zones LPZ 0 and LPZ 1 or higher, mainly to main distribution boards
- for protection against impact of direct

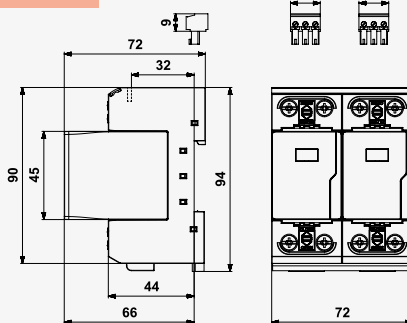
or indirect lightning strikes in wide range of applications – houses, office and industrial buildings

- coordination with SPD type 2 (SLP-275 V) even without surge separating inductors

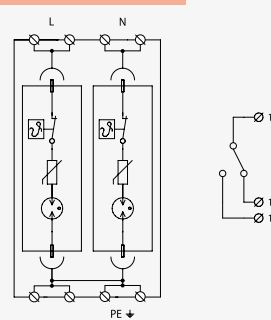
- no leakage current
- optional remote fault signalling (S)



Dimensions



Basic circuit diagram



Parameter/Type		FLP-25-T1-V/2	FLP-25-T1-VS/2
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage	U_c	260 V AC	260 V AC
Nominal load current for "V" connection	I_L	125 A	125 A
Lightning impulse current (10/350 μ s)	I_{imp}	25 kA	25 kA
Voltage protection level	U_p	1.5 kV	1.5 kV
Short-circuit current rating	I_{SCCR}	50 kA	50 kA
Maximum overcurrent protection		250 A gL/gG	250 A gL/gG
Maximum overcurrent protection for "V" connection		125 A gL/gG	125 A gL/gG
Response time	t_a	100 ns	100 ns
Cross-section of connected conductors solid (min/max)		2.5 mm ² / 50 mm ²	2.5 mm ² / 50 mm ²
Cross-section of connected conductors stranded (min/max)		2.5 mm ² / 50 mm ²	2.5 mm ² / 50 mm ²
Fault indication		red indication field	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		–	1.5 mm ²
Degree of protection		IP 20	IP 20
Range of operating temperatures (min/max)		– 40 °C ... + 80 °C	– 40 °C ... + 80 °C
Mounting		DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-11:2012, IEC 61643-11:2011 / T1	EN 61643-11:2012, IEC 61643-11:2011 / T1
Ordering number		8595090562597	8595090562603

Spare module	FLP-25-T1-V/0	FLP-25-T1-V/0
Ordering number	8595090554530	8595090554530

FLP-25-T1-V(S)/1+1

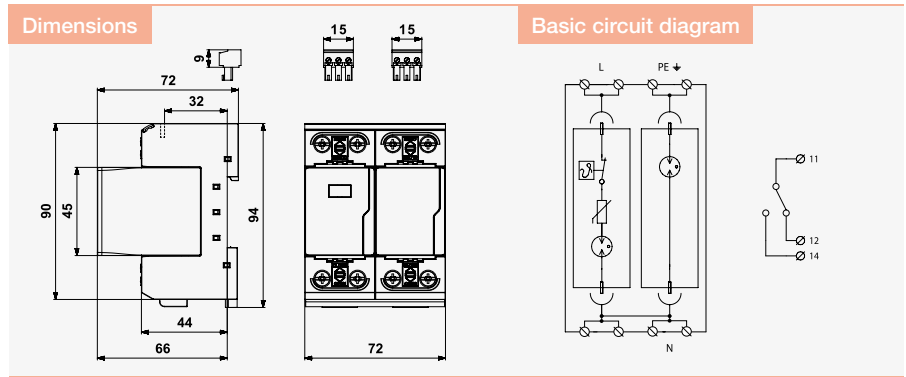
SPD type 1 – Lightning current arrester

pluggable module, visual fault signalling, module locking

- combination of one-pole high performance lightning current arrester and encapsulated efficiency spark gap, connected in the 1+1 mode
- installation at the boundary of zones LPZ 0 and LPZ 1 or higher, mainly to

- main distribution boards
- for protection against impact of direct or indirect lightning strikes in wide range of applications – houses, office and industrial buildings

- coordination with SPD type 2 (SLP-275 V) even without surge separating inductors
- no leaking current
- optional remote fault signalling (S)



Parameter / Type		FLP-25-T1-V/1+1	FLP-25-T1-VS/1+1
Nominal voltage	U_n	230 V AC	230 V AC
Maximum operating voltage L-N	U_c	260 V AC	260 V AC
Maximum operating voltage N-PE	U_c	255 V AC	255 V AC
Nominal load current for "V" connection	I_L	125 A	125 A
Lightning impulse current (10/350 μ s) L-N	I_{imp}	25 kA	25 kA
Lightning impulse current (10/350 μ s) N-PE	I_{imp}	50 kA	50 kA
Voltage protection level mode L-N	U_p	1.5 kV	1.5 kV
Voltage protection level mode N-PE	U_p	1.5 kV	1.5 kV
Voltage protection level mode L-PE	U_p	2.2 kV	2.2 kV
Short-circuit current rating	I_{SCCR}	50 kA	50 kA
Maximum overcurrent protection		250 A gL/gG	250 A gL/gG
Maximum overcurrent protection for "V" connection		125 A gL/gG	125 A gL/gG
Response time L-N	t_a	100 ns	100 ns
Response time N-PE	t_a	100 ns	100 ns
Cross-section of connected conductors solid (min/max)		2.5 mm ² / 50 mm ²	2.5 mm ² / 50 mm ²
Cross-section of connected conductors stranded (min/max)		2.5 mm ² / 50 mm ²	2.5 mm ² / 50 mm ²
Fault indication		red indication field	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		–	1.5 mm ²
Degree of protection		IP 20	IP 20
Range of operating temperatures (min/max)		– 40 °C ... + 80 °C	– 40 °C ... + 80 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-11:2012, IEC 61643-11:2011 / T1	EN 61643-11:2012, IEC 61643-11:2011 / T1
Ordering number		8595090562573	8595090562580

Spare module	FLP-25-T1-V/0	FLP-A50N V/0	FLP-25-T1-V/0	FLP-A50N V/0
Ordering number	8595090554530	8595090535379	8595090554530	8595090535379

SLP-600 V/3 (S)

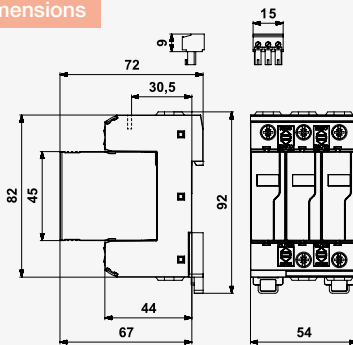
SPD type 2 – Surge arrester

pluggable module, visual fault signalling, module locking

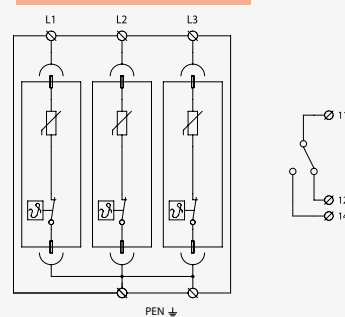
- three-pole varistor surge arrester
- installation to LV installations, especially to sub-distribution boards in TN, IT systems
- for protection of the installations and equipments against impact of induced overvoltages during a lightning strike or switching overvoltages
- suitable for the protection of wind farms and inverters
- optional remote fault signalling (S)



Dimensions



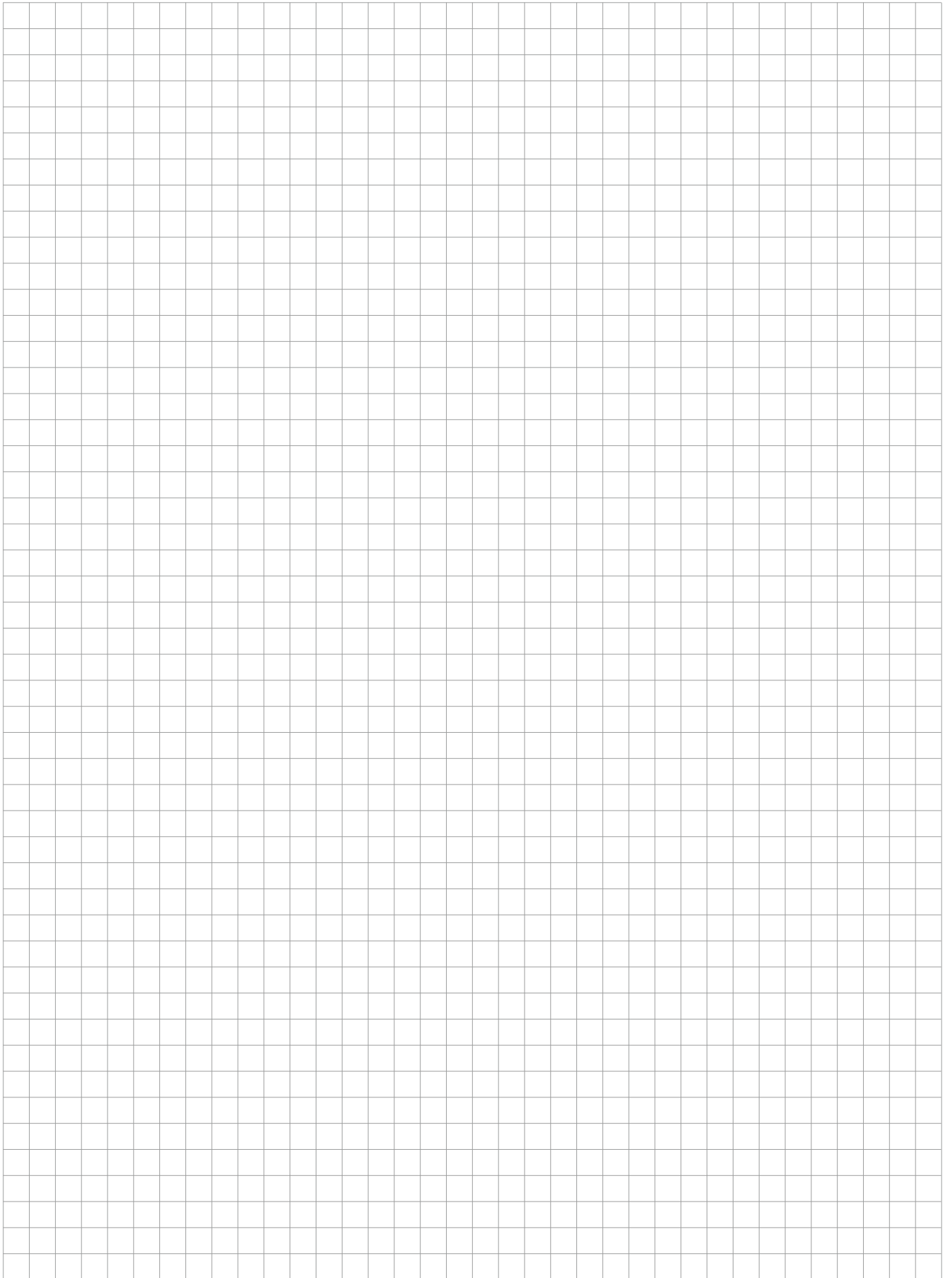
Basic circuit diagram



Parameter/Type		SLP-600 V/3	SLP-600 V/3 S
Nominal voltage	U_n	690 V AC	690 V AC
Maximum operating voltage	U_c	760 V AC	760 V AC
Nominal load current	I_n	15 kA	15 kA
Maximum discharge current (8/20 μ s)	I_{max}	40 kA	40 kA
Voltage protection level at 5 kA	U_p	2.7 kV	2.7 kV
Voltage protection level	U_p	3.2 kV	3.2 kV
Short-circuit current rating	I_{SCCR}	25 kA	25 kA
Maximum overcurrent protection		100 A gL/gG	100 A gL/gG
Response time	t_a	25 ns	25 ns
Cross-section of connected conductors solid (min/max)		1 mm ² / 35 mm ²	1 mm ² / 35 mm ²
Cross-section of connected conductors stranded (min/max)		1 mm ² / 25 mm ²	1 mm ² / 25 mm ²
Fault indication		red indication field	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		–	1.5 mm ²
Degree of protection		IP 20	IP 20
Range of operating temperatures (min/max)		– 40 °C ... + 80 °C	– 40 °C ... + 80 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-11:2012, IEC 61643-11:2011 / T2	EN 61643-11:2012, IEC 61643-11:2011 / T2
Ordering number		8595090560760	8595090563051

Spare module	SLP-600 V/0	SLP-600 V/0
Ordering number	8595090533030	8595090533030

Notes



SPDs for data/signalling/telecommunication networks



- Security, Fire Alarm and CCTV systems
- IP technology and data networks (Ethernet)
- ADSL and telecommunications
- Antennas
- Attendance systems
- Control systems for industry

- BDM-...-V/...
- BDG-...-V/...
- BDM-...-V/...-J..
- BDG-...-V/1-4(F)R1
- BDMHF-...-V/1..
- BDGHF-...-V/1..
- DL-...G-RJ45-60V
- HX-470-N50 F/.
- ZX-0,44-N50-F/.

Run-out products and corresponding equivalents

Surge protective devices (SPD) with a pluggable module for signal and telecommunication lines were modified to meet requirements of the D1 class (testing by the pulse current 10/350 μs). These SPD were designed for locations ST 1+2+3, both for the installation at the entrance of a building, and close to the device to be protected. Ranges BDM-...-V and BDG-...-V have been replacing ranges DM-...-V and DMG-...-V which have been cancelled.

Run-out product		New product – substitution	
Type/Name	Ordering number	Type/Name	Ordering number
DM-006-V/1-0	8595090555063	BDM-006-V/1-0	8595090555018
DM-006-V/1-FR1	8595090556015	BDM-006-V/1-FR1	8595090557098
DM-006-V/1-FR2	8595090556213	BDM-006-V/1-FR2	8595090563853
DM-006-V/1-R1	8595090554295	BDM-006-V/1-R1	8595090554240
DM-006-V/1-R2	8595090554370	BDM-006-V/1-R2	8595090563860
DM-006-V/2-0	8595090556695	BDM-006-V/2-0	8595090563877
DM-006-V/2-FR1	8595090556114	BDM-006-V/2-FR1	8595090563884
DM-006-V/2-J-0	8595090556800	BDM-006-V/2-J-0	8595090563891
DM-006-V/2-JFR1	8595090556374	BDM-006-V/2-JFR1	8595090563907
DM-006-V/2-JFR2	8595090556572	BDM-006-V/2-JFR2	8595090563914
DM-006-V/2-JR1	8595090556329	BDM-006-V/2-JR1	8595090563921
DM-006-V/2-JR2	8595090556527	BDM-006-V/2-JR2	8595090563938
DM-006-V/2-R1	8595090554332	BDM-006-V/2-R1	8595090563945
DM-006-V/4-J-0	8595090556855	BDM-006-V/4-J-0	8595090563952
DM-006-V/4-JFR1	8595090556473	BDM-006-V/4-JFR1	8595090563969
DM-006-V/4-JR1	8595090556428	BDM-006-V/4-JR1	8595090563976
DM-012-V/1-0	8595090555070	BDM-012-V/1-0	8595090555025
DM-012-V/1-FR1	8595090556022	BDM-012-V/1-FR1	8595090557104
DM-012-V/1-FR2	8595090556220	BDM-012-V/1-FR2	8595090563983
DM-012-V/1-R1	8595090554301	BDM-012-V/1-R1	8595090554257
DM-012-V/1-R2	8595090554387	BDM-012-V/1-R2	8595090563990
DM-012-V/2-0	8595090556701	BDM-012-V/2-0	8595090564003
DM-012-V/2-FR1	8595090556121	BDM-012-V/2-FR1	8595090564010
DM-012-V/2-J-0	8595090556817	BDM-012-V/2-J-0	8595090564027
DM-012-V/2-JFR1	8595090556381	BDM-012-V/2-JFR1	8595090564034
DM-012-V/2-JFR2	8595090556589	BDM-012-V/2-JFR2	8595090564041
DM-012-V/2-JR1	8595090556336	BDM-012-V/2-JR1	8595090564058
DM-012-V/2-JR2	8595090556534	BDM-012-V/2-JR2	8595090564065
DM-012-V/2-R1	8595090554349	BDM-012-V/2-R1	8595090564072
DM-012-V/4-J-0	8595090556862	BDM-012-V/4-J-0	8595090564089
DM-012-V/4-JFR1	8595090556480	BDM-012-V/4-JFR1	8595090564096
DM-012-V/4-JR1	8595090556435	BDM-012-V/4-JR1	8595090564102
DM-024-V/1-0	8595090555087	BDM-024-V/1-0	8595090555032
DM-024-V/1-FR1	8595090556039	BDM-024-V/1-FR1	8595090557111
DM-024-V/1-FR2	8595090556237	BDM-024-V/1-FR2	8595090564119
DM-024-V/1-R1	8595090554318	BDM-024-V/1-R1	8595090554264
DM-024-V/1-R2	8595090554394	BDM-024-V/1-R2	8595090564126
DM-024-V/2-0	8595090556718	BDM-024-V/2-0	8595090564133
DM-024-V/2-FR1	8595090556138	BDM-024-V/2-FR1	8595090564140
DM-024-V/2-J-0	8595090556824	BDM-024-V/2-J-0	8595090564157
DM-024-V/2-JFR1	8595090556398	BDM-024-V/2-JFR1	8595090564164
DM-024-V/2-JFR2	8595090556596	BDM-024-V/2-JFR2	8595090564171
DM-024-V/2-JR1	8595090556343	BDM-024-V/2-JR1	8595090564188
DM-024-V/2-JR2	8595090556541	BDM-024-V/2-JR2	8595090564195
DM-024-V/2-R1	8595090554356	BDM-024-V/2-R1	8595090564201
DM-024-V/4-J-0	8595090556879	BDM-024-V/4-J-0	8595090564218
DM-024-V/4-JFR1	8595090556497	BDM-024-V/4-JFR1	8595090564225
DM-024-V/4-JR1	8595090556442	BDM-024-V/4-JR1	8595090564232
DM-048-V/1-0	8595090555094	BDM-048-V/1-0	8595090555049
DM-048-V/1-FR1	8595090556046	BDM-048-V/1-FR1	8595090557128
DM-048-V/1-FR2	8595090556244	BDM-048-V/1-FR2	8595090564249
DM-048-V/1-R1	8595090554325	BDM-048-V/1-R1	8595090554271
DM-048-V/1-R2	8595090554400	BDM-048-V/1-R2	8595090564256
DM-048-V/2-0	8595090556725	BDM-048-V/2-0	8595090564263
DM-048-V/2-FR1	8595090556145	BDM-048-V/2-FR1	8595090564270
DM-048-V/2-J-0	8595090556831	BDM-048-V/2-J-0	8595090564287
DM-048-V/2-JFR1	8595090556404	BDM-048-V/2-JFR1	8595090564294
DM-048-V/2-JFR2	8595090556602	BDM-048-V/2-JFR2	8595090564300
DM-048-V/2-JR1	8595090556350	BDM-048-V/2-JR1	8595090564317

Run-out product		New product – substitution	
Type/Name	Ordering number	Type/Name	Ordering number
DM-048-V/2-JR2	8595090556558	BDM-048-V/2-JR2	8595090564324
DM-048-V/2-R1	8595090554363	BDM-048-V/2-R1	8595090564331
DM-048-V/4-J-0	8595090556886	BDM-048-V/4-J-0	8595090564348
DM-048-V/4-JFR1	8595090556503	BDM-048-V/4-JFR1	8595090564355
DM-048-V/4-JR1	8595090556459	BDM-048-V/4-JR1	8595090564362
DM-060-V/1-0	8595090555100	BDM-060-V/1-0	8595090564379
DM-060-V/1-FR1	8595090556053	BDM-060-V/1-FR1	8595090564386
DM-060-V/1-FR2	8595090556251	BDM-060-V/1-FR2	8595090564393
DM-060-V/1-R1	8595090555988	BDM-060-V/1-R1	8595090564409
DM-060-V/1-R2	8595090556183	BDM-060-V/1-R2	8595090564416
DM-060-V/2-0	8595090556732	BDM-060-V/2-0	8595090564423
DM-060-V/2-FR1	8595090556152	BDM-060-V/2-FR1	8595090564430
DM-060-V/2-R1	8595090556084	BDM-060-V/2-R1	8595090564447
DM-110-V/1-0	8595090555117	BDM-110-V/1-0	8595090564454
DM-110-V/1-FR	8595090556060	BDM-110-V/1-FR	8595090564461
DM-110-V/1-FR1	8595090556268	BDM-110-V/1-FR1	8595090564478
DM-110-V/1-R	8595090555995	BDM-110-V/1-R	8595090564485
DM-110-V/1-R1	8595090556190	BDM-110-V/1-R1	8595090564492
DM-110-V/2-0	8595090556749	BDM-110-V/2-0	8595090564508
DM-110-V/2-FR	8595090556169	BDM-110-V/2-FR	8595090564515
DM-110-V/2-J-0	8595090556848	BDM-110-V/2-J-0	8595090564522
DM-110-V/2-JFR	8595090556411	BDM-110-V/2-JFR	8595090564539
DM-110-V/2-JFR1	8595090556619	BDM-110-V/2-JFR1	8595090564546
DM-110-V/2-JR	8595090556367	BDM-110-V/2-JR	8595090564553
DM-110-V/2-JR1	8595090556565	BDM-110-V/2-JR1	8595090564560
DM-110-V/2-R	8595090556091	BDM-110-V/2-R	8595090564577
DM-110-V/4-J-0	8595090556893	BDM-110-V/4-J-0	8595090564584
DM-110-V/4-JFR	8595090556510	BDM-110-V/4-JFR	8595090564591
DM-110-V/4-JR	8595090556466	BDM-110-V/4-JR	8595090564607
DM-230-V/1-0	8595090556688	BDM-230-V/1-0	8595090555056
DM-230-V/1-FR	8595090556077	BDM-230-V/1-FR	8595090557135
DM-230-V/1-FR1	8595090556275	BDM-230-V/1-FR1	8595090564614
DM-230-V/1-R	8595090556008	BDM-230-V/1-R	8595090554288
DM-230-V/1-R1	8595090556206	BDM-230-V/1-R1	8595090564621
DM-230-V/2-0	8595090556756	BDM-230-V/2-0	8595090564638
DM-230-V/2-FR	8595090556176	BDM-230-V/2-FR	8595090564645
DM-230-V/2-R	8595090556107	BDM-230-V/2-R	8595090564652
DMG-006-V/1-0	8595090553922	BDG-006-V/1-0	8595090553991
DMG-006-V/1-4-0	8595090556763	BDG-006-V/1-4-0	8595090564669
DMG-006-V/1-4FR1	8595090556282	BDG-006-V/1-4FR1	8595090564676
DMG-006-V/1-4R1	8595090554417	BDG-006-V/1-4R1	8595090564683
DMG-006-V/1-FR1	8595090555773	BDG-006-V/1-FR1	8595090557043
DMG-006-V/1-FR2	8595090555636	BDG-006-V/1-FR2	8595090564690
DMG-006-V/1-R1	8595090555704	BDG-006-V/1-R1	8595090554196
DMG-006-V/1-R2	8595090555568	BDG-006-V/1-R2	8595090564706
DMG-006-V/2-0	8595090554042	BDG-006-V/2-0	8595090564713
DMG-006-V/2-FR1	8595090555919	BDG-006-V/2-FR1	8595090564720
DMG-006-V/2-R1	8595090555841	BDG-006-V/2-R1	8595090564737
DMG-012-V/1-0	8595090553939	BDG-012-V/1-0	8595090554004
DMG-012-V/1-4-0	8595090556770	BDG-012-V/1-4-0	8595090564744
DMG-012-V/1-4FR1	8595090556299	BDG-012-V/1-4FR1	8595090564751
DMG-012-V/1-4R1	8595090554424	BDG-012-V/1-4R1	8595090564768
DMG-012-V/1-FR1	8595090555780	BDG-012-V/1-FR1	8595090557050
DMG-012-V/1-FR2	8595090555643	BDG-012-V/1-FR2	8595090564775
DMG-012-V/1-R1	8595090555711	BDG-012-V/1-R1	8595090554202
DMG-012-V/1-R2	8595090555575	BDG-012-V/1-R2	8595090564782
DMG-012-V/2-0	8595090554059	BDG-012-V/2-0	8595090564799
DMG-012-V/2-FR1	8595090555926	BDG-012-V/2-FR1	8595090564805
DMG-012-V/2-R1	8595090555858	BDG-012-V/2-R1	8595090564812

Run-out products and corresponding equivalents

Run-out product		New product – substitution	
Type/Name	Ordering number	Type/Name	Ordering number
DMG-024-V/1-0	8595090553946	BDG-024-V/1-0	8595090554011
DMG-024-V/1-4-0	8595090556787	BDG-024-V/1-4-0	8595090564829
DMG-024-V/1-4FR1	8595090556305	BDG-024-V/1-4FR1	8595090564836
DMG-024-V/1-4R1	8595090554431	BDG-024-V/1-4R1	8595090564843
DMG-024-V/1-FR1	8595090555797	BDG-024-V/1-FR1	8595090557067
DMG-024-V/1-FR2	8595090555650	BDG-024-V/1-FR2	8595090564850
DMG-024-V/1-R1	8595090555728	BDG-024-V/1-R1	8595090554219
DMG-024-V/1-R2	8595090555582	BDG-024-V/1-R2	8595090564867
DMG-024-V/2-0	8595090554066	BDG-024-V/2-0	8595090564874
DMG-024-V/2-FR1	8595090555933	BDG-024-V/2-FR1	8595090564881
DMG-024-V/2-R1	8595090555865	BDG-024-V/2-R1	8595090564898
DMG-048-V/1-0	8595090553953	BDG-048-V/1-0	8595090554028
DMG-048-V/1-4-0	8595090556794	BDG-048-V/1-4-0	8595090564904
DMG-048-V/1-4FR1	8595090556312	BDG-048-V/1-4FR1	8595090564911
DMG-048-V/1-4R1	8595090554448	BDG-048-V/1-4R1	8595090564928
DMG-048-V/1-FR1	8595090555803	BDG-048-V/1-FR1	8595090557074
DMG-048-V/1-FR2	8595090555667	BDG-048-V/1-FR2	8595090564935
DMG-048-V/1-R1	8595090555735	BDG-048-V/1-R1	8595090554226
DMG-048-V/1-R2	8595090555599	BDG-048-V/1-R2	8595090564942
DMG-048-V/2-0	8595090554073	BDG-048-V/2-0	8595090564959
DMG-048-V/2-FR1	8595090555940	BDG-048-V/2-FR1	8595090564966
DMG-048-V/2-R1	8595090555872	BDG-048-V/2-R1	8595090564973
DMG-060-V/1-0	8595090553960	BDG-060-V/1-0	8595090564980
DMG-060-V/1-FR1	8595090555810	BDG-060-V/1-FR1	8595090564997
DMG-060-V/1-FR2	8595090555674	BDG-060-V/1-FR2	8595090565000
DMG-060-V/1-R1	8595090555742	BDG-060-V/1-R1	8595090565017
DMG-060-V/1-R2	8595090555605	BDG-060-V/1-R2	8595090565024
DMG-060-V/2-0	8595090554981	BDG-060-V/2-0	8595090565031
DMG-060-V/2-FR1	8595090555957	BDG-060-V/2-FR1	8595090565048
DMG-060-V/2-R1	8595090555889	BDG-060-V/2-R1	8595090565055
DMG-110-V/1-0	8595090553977	BDG-110-V/1-0	8595090565062
DMG-110-V/1-FR	8595090555827	BDG-110-V/1-FR	8595090565079
DMG-110-V/1-FR1	8595090555681	BDG-110-V/1-FR1	8595090565086
DMG-110-V/1-R	8595090555759	BDG-110-V/1-R	8595090565093
DMG-110-V/1-R1	8595090555612	BDG-110-V/1-R1	8595090565109
DMG-110-V/2-0	8595090554998	BDG-110-V/2-0	8595090565116
DMG-110-V/2-FR	8595090555964	BDG-110-V/2-FR	8595090565123
DMG-110-V/2-R	8595090555896	BDG-110-V/2-R	8595090565130
DMG-230-V/1-0	8595090553984	BDG-230-V/1-0	8595090554035
DMG-230-V/1-FR	8595090555834	BDG-230-V/1-FR	8595090557081
DMG-230-V/1-FR1	8595090555698	BDG-230-V/1-FR1	8595090565147
DMG-230-V/1-R	8595090555766	BDG-230-V/1-R	8595090554233
DMG-230-V/1-R1	8595090555629	BDG-230-V/1-R1	8595090565154
DMG-230-V/2-0	8595090555001	BDG-230-V/2-0	8595090565161
DMG-230-V/2-FR	8595090555971	BDG-230-V/2-FR	8595090565178
DMG-230-V/2-R	8595090555902	BDG-230-V/2-R	8595090565185
DMGHF-006-V/1-0	8595090558040	BDGHF-006-V/1-0	8595090565192
DMGHF-006-V/1-FR1	8595090557807	BDGHF-006-V/1-FR1	8595090565208
DMGHF-006-V/1-R1	8595090557760	BDGHF-006-V/1-R1	8595090565215
DMGHF-006-V/2-0	8595090558088	BDGHF-006-V/2-0	8595090565222
DMGHF-006-V/2-FR1	8595090557883	BDGHF-006-V/2-FR1	8595090565239
DMGHF-006-V/2-R1	8595090557845	BDGHF-006-V/2-R1	8595090565246
DMGHF-012-V/1-0	8595090558057	BDGHF-012-V/1-0	8595090565253
DMGHF-012-V/1-FR1	8595090557814	BDGHF-012-V/1-FR1	8595090565260
DMGHF-012-V/1-R1	8595090557777	BDGHF-012-V/1-R1	8595090565277
DMGHF-012-V/2-0	8595090558095	BDGHF-012-V/2-0	8595090565284
DMGHF-012-V/2-FR1	8595090557890	BDGHF-012-V/2-FR1	8595090565291
DMGHF-012-V/2-R1	8595090557852	BDGHF-012-V/2-R1	8595090565307
DMGHF-024-V/1-0	8595090558064	BDGHF-024-V/1-0	8595090565314

Run-out product		New product – substitution	
Type/Name	Ordering number	Type/Name	Ordering number
DMGHF-024-V/1-FR1	8595090557821	BDGHF-024-V/1-FR1	8595090565321
DMGHF-024-V/1-R1	8595090557784	BDGHF-024-V/1-R1	8595090565338
DMGHF-024-V/2-0	8595090558101	BDGHF-024-V/2-0	8595090565345
DMGHF-024-V/2-FR1	8595090557906	BDGHF-024-V/2-FR1	8595090565352
DMGHF-024-V/2-R1	8595090557869	BDGHF-024-V/2-R1	8595090565369
DMGHF-230-V/1-0	8595090558071	BDGHF-230-V/1-0	8595090565376
DMGHF-230-V/1-FR	8595090557838	BDGHF-230-V/1-FR	8595090565383
DMGHF-230-V/1-R	8595090557791	BDGHF-230-V/1-R	8595090565390
DMGHF-230-V/2-0	8595090558118	BDGHF-230-V/2-0	8595090565406
DMGHF-230-V/2-FR	8595090557913	BDGHF-230-V/2-FR	8595090565413
DMGHF-230-V/2-R	8595090557876	BDGHF-230-V/2-R	8595090565420
DMHF-006-V/1-0	8595090558125	BDMHF-006-V/1-0	8595090565437
DMHF-006-V/1-4-0	8595090556909	BDMHF-006-V/1-4-0	8595090565444
DMHF-006-V/1-4FR1	8595090556626	BDMHF-006-V/1-4FR1	8595090565451
DMHF-006-V/1-4R1	8595090554455	BDMHF-006-V/1-4R1	8595090565468
DMHF-006-V/1-FR1	8595090557944	BDMHF-006-V/1-FR1	8595090565475
DMHF-006-V/1-R1	8595090557920	BDMHF-006-V/1-R1	8595090565482
DMHF-024-V/1-0	8595090558132	BDMHF-024-V/1-0	8595090565499
DMHF-024-V/1-4-0	8595090556916	BDMHF-024-V/1-4-0	8595090565505
DMHF-024-V/1-4FR1	8595090556633	BDMHF-024-V/1-4FR1	8595090565512
DMHF-024-V/1-4R1	8595090554462	BDMHF-024-V/1-4R1	8595090565529
DMHF-024-V/1-FR1	8595090557951	BDMHF-024-V/1-FR1	8595090565536
DMHF-024-V/1-R1	8595090557937	BDMHF-024-V/1-R1	8595090565543

BDM-...-V/1-R.

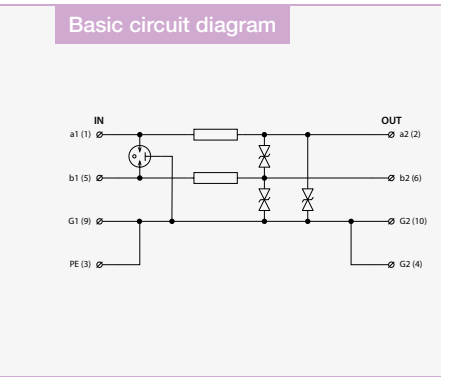
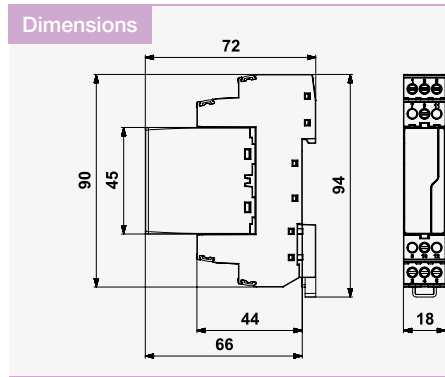
Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of telecommunication lines (version BDM-230) and communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485

- interfaces) against impact of surge voltage
- coarse and fine surge protection in differential mode (core – core) and common mode (core – PE)



Parameter / Type		BDM-006-V/1-R2	BDM-012-V/1-R2	BDM-024-V/1-R2	BDM-048-V/1-R2	BDM-060-V/1-R2
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L	2 A	2 A	2 A	2 A	2 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R	0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω
Threshold frequency core-core	f	0.8 MHz	2 MHz	4 MHz	5 MHz	6.5 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090563860	8595090563990	8595090564126	8595090564256	8595090564416

Spare module	BDM-006-V/1-0	BDM-012-V/1-0	BDM-024-V/1-0	BDM-048-V/1-0	BDM-060-V/1-0
Ordering number	8595090555018	8595090555025	8595090555032	8595090555049	8595090564379

BDM-...-V/1-(F)R.

Lightning current arrester

pluggable module, coupling impedance (R – resistance)

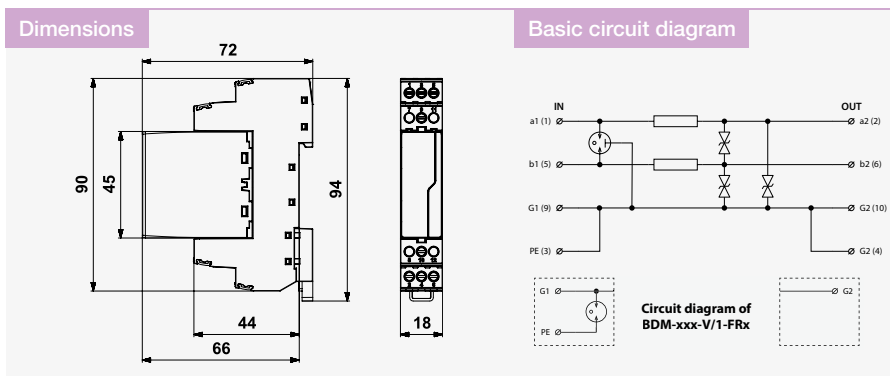
- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

close to protected device

- for protection of telecommunication lines (version BDM-230) and communication interfaces of I&C, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against

impact of surge voltage

- coarse and fine surge protection in differential mode (core – core) and common mode (core – PE)
- F – the line separated from protective earth via GDT



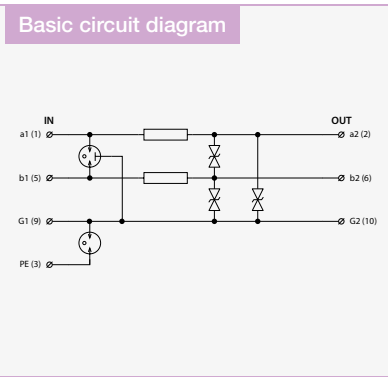
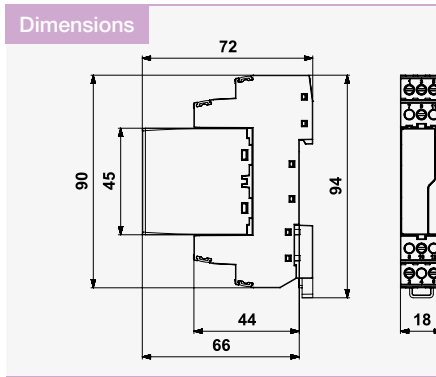
Parameter / Type		BDM-110-V/1-R	BDM-110-V/1-R1	BDM-230-V/1-R1	BDM-110-V/1-FR	BDM-110-V/1-FR1	BDM-230-V/1-FR1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	110 V DC	110 V DC	230 V DC	110 V DC	110 V DC	230 V DC
Maximum operating voltage	U_c	85 V AC / 120 V DC	85 V AC / 120 V DC	177 V AC / 250 V DC	85 V AC / 120 V DC	85 V AC / 120 V DC	177 V AC / 250 V DC
Nominal load current	I_L	0.5 A	1 A	1 A	0.5 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) per core GND-PE	I_n	–	–	–	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	170 V	170 V	350 V	170 V	170 V	350 V
C3 voltage protection level mode core GND-PE at 1 kV/ μ s	U_p	–	–	–	550 V	550 V	550 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	170 V	170 V	350 V	170 V	170 V	350 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	1 ns	1 ns	1 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	–	–	–	1 ns	1 ns	1 ns
Serial resistance per core	R	3.3 Ω	1.6 Ω	1.6 Ω	3.3 Ω	1.6 Ω	1.6 Ω
Threshold frequency core-core	f	10 MHz	10 MHz	11 MHz	10 MHz	10 MHz	11 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2
Ordering number		8595090564485	8595090564492	8595090564621	8595090564461	8595090564478	8595090564614

Spare module	BDM-110-V/1-0	BDM-110-V/1-0	BDM-230-V/1-0	BDM-110-V/1-0	BDM-110-V/1-0	BDM-230-V/1-0
Ordering number	8595090564454	8595090564454	8595090555056	8595090564454	8595090564454	8595090555056

BDM-...-V/1-FR.

Combination of coarse and fine surge protection for telecommunication and signalling networks
pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection for 2/3-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type	BDM-006-V/1-FR2	BDM-012-V/1-FR2	BDM-024-V/1-FR2	BDM-048-V/1-FR2	BDM-060-V/1-FR2
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n 6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c 6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L 2 A	2 A	2 A	2 A	2 A
C2 nominal discharge current (8/20 μ s) per core	I_n 10 kA	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) per core GND-PE	I_n 10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total} 20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p 12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core GND-PE at 1 kV/ μ s	U_p 550 V	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp} 2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total} 5 kA	5 kA	5 kA	5 kA	5 kA
C3 voltage protection level mode core-GND at 1 kV/ μ s	U_p 12 V	22 V	46 V	65 V	85 V
Response time core-core	t_a 1 ns	1 ns	1 ns	1 ns	1 ns
Response time GND-PE	t_a 100 ns	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a 1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R 0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω
Threshold frequency core-core	f 0.8 MHz	2 MHz	4 MHz	5 MHz	6.5 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number	8595090563853	8595090563983	8595090564119	8595090564249	8595090564393

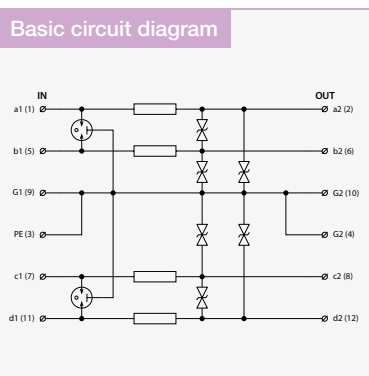
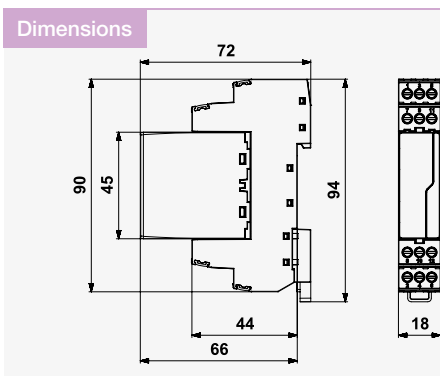
Spare module	BDM-006-V/1-0	BDM-012-V/1-0	BDM-024-V/1-0	BDM-048-V/1-0	BDM-060-V/1-0
Ordering number	8595090555018	8595090555025	8595090555032	8595090555049	8595090564379

BDM-...-V/2-R.

Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation close to protected device
- for protection of communication interfaces of I&C, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type		BDM-006-V/2-R1	BDM-012-V/2-R1	BDM-024-V/2-R1	BDM-048-V/2-R1	BDM-060-V/2-R1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L	1 A	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core	f	0.8 MHz	2 MHz	4 MHz	5 MHz	6.5 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090563945	8595090564072	8595090564201	8595090564331	8595090564447

Spare module	BDM-006-V/2-0	BDM-012-V/2-0	BDM-024-V/2-0	BDM-048-V/2-0	BDM-060-V/2-0
Ordering number	8595090563877	8595090564003	8595090564133	8595090564263	8595090564423

BDM-...-V/2-(F)R.

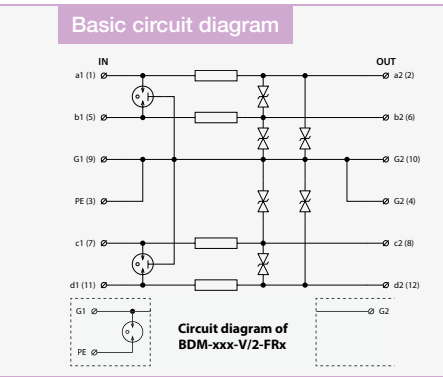
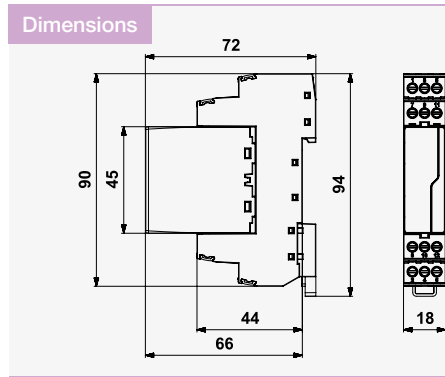
Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of telecommunication line against impact of surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common

- mode (line – PE)
- F – the line separated from protective earth via GDT



Parameter / Type		BDM-110-V/2-R	BDM-230-V/2-R	BDM-110-V/2-FR	BDM-230-V/2-FR
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	110 V DC	230 V DC	110 V DC	230 V DC
Maximum operating voltage	U_c	85 V AC / 120 V DC	177 V AC / 250 V DC	85 V AC / 120 V DC	177 V AC / 250 V DC
Nominal load current	I_L	0.5 A	0.5 A	0.5 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) per core GND-PE	I_n	–	–	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	170 V	350 V	170 V	350 V
C3 voltage protection level mode core GND-PE at 1 kV/ μ s	U_p	–	–	550 V	550 V
C3 voltage protection level mode core-PE-GND at 1 kV/ μ s	U_p	170 V	350 V	170 V	350 V
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time GND-PE	t_a	–	–	100 ns	100 ns
Response time core-PE	t_a	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R	3.3 Ω	3.3 Ω	3.3 Ω	3.3 Ω
Threshold frequency core-core	f	10 MHz	11 MHz	10 MHz	11 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090564577	8595090564652	8595090564515	8595090564645

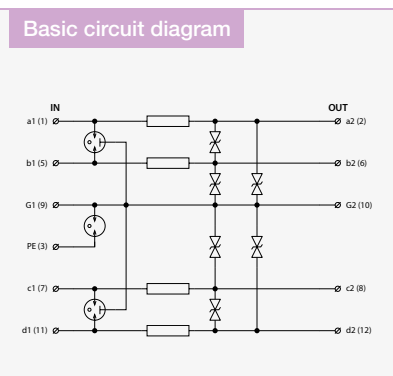
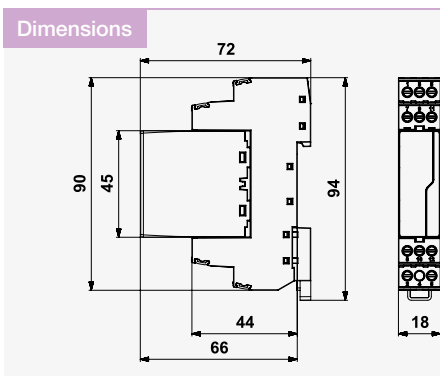
Spare module	BDM-110-V/2-0	BDM-230-V/2-0	BDM-110-V/2-0	BDM-230-V/2-0
Ordering number	8595090564508	8595090564638	8595090564508	8595090564638

BDM-...-V/2-FR.

Lightning current arrester

pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type	BDM-006-V/2-FR1	BDM-012-V/2-FR1	BDM-024-V/2-FR1	BDM-048-V/2-FR1	BDM-060-V/2-FR1
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n 6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c 6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L 1 A	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n 10 kA	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) per core GND-PE	I_n 10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total} 20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p 12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core GND-PE at 1 kV/ μ s	U_p 550 V	550 V	550 V	550 V	550 V
C3 voltage protection level mode core-GND at 1 kV/ μ s	U_p 12 V	22 V	46 V	65 V	85 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp} 2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total} 5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a 1 ns	1 ns	1 ns	1 ns	1 ns
Response time GND-PE	t_a 100 ns	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a 1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R 0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core	f 0.8 MHz	2 MHz	4 MHz	5 MHz	6.5 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number	8595090563884	8595090564010	8595090564140	8595090564270	8595090564430

Spare module	BDM-006-V/2-0	BDM-012-V/2-0	BDM-024-V/2-0	BDM-048-V/2-0	BDM-060-V/2-0
Ordering number	8595090563877	8595090564003	8595090564133	8595090564263	8595090564423

BDG-...-V/1-R.

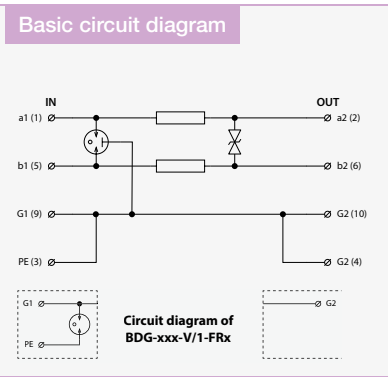
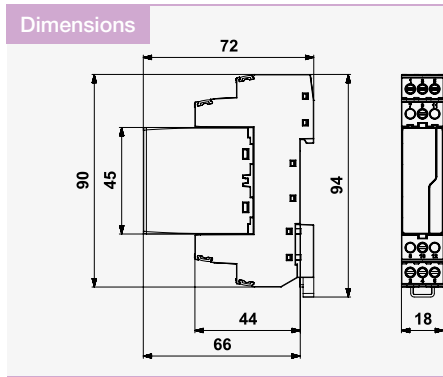
Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces of I&C (version BDG-230), electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge

- voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type		BDG-006-V/1-R2	BDG-012-V/1-R2	BDG-024-V/1-R2	BDG-048-V/1-R2	BDG-060-V/1-R2
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L	2 A	2 A	2 A	2 A	2 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V	550 V
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_c	100 ns	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω
Threshold frequency core-core	f	1.2 MHz	3 MHz	6 MHz	7 MHz	10 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number		8595090564706	8595090564782	8595090564867	8595090564942	8595090565024

Spare module	BDG-006-V/1-0	BDG-012-V/1-0	BDG-024-V/1-0	BDG-048-V/1-0	BDG-060-V/1-0
Ordering number	8595090553991	8595090554004	8595090554011	8595090554028	8595090554090

BDG-...-V/1-(F)R.

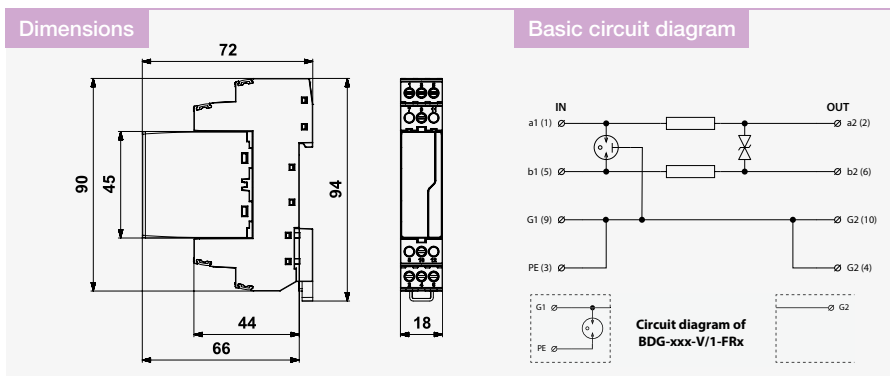
Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also

- installation close to protected device
- for protection of telecommunication line against impact of surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common

- mode (line – PE)
- F – the line separated from protective earth via GDT



Parameter / Type		BDG-110-V/1-R	BDG-110-V/1-R1	BDG-230-V/1-R1	BDG-110-V/1-FR	BDG-110-V/1-FR1	BDG-230-V/1-FR1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	110 V DC	110 V DC	230 V DC	110 V DC	110 V DC	230 V DC
Maximum operating voltage	U_c	85 V AC / 120 V DC	85 V AC / 120 V DC	177 V AC / 250 V DC	85 V AC / 120 V DC	85 V AC / 120 V DC	177 V AC / 250 V DC
Nominal load current	I_L	0.5 A	1 A	1 A	0.5 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) core-PE	I_{Total}	20 kA	20 kA	20 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	–	–	–	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	170 V	170 V	350 V	170 V	170 V	350 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p	–	–	–	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	100 ns	100 ns	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	–	–	–	100 ns	100 ns	100 ns
Serial resistance per core	R	3.3 Ω	1.6 Ω	1.6 Ω	3.3 Ω	1.6 Ω	1.6 Ω
Threshold frequency core-core	f	14 MHz	14 MHz	16 MHz	14 MHz	14 MHz	16 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number		8595090565093	8595090565109	8595090565154	8595090565079	8595090565086	8595090565147
Spare module		BDG-110-V/1-0	BDG-110-V/1-0	BDG-230-V/1-0	BDG-110-V/1-0	BDG-110-V/1-0	BDG-230-V/1-0
Ordering number		8595090565062	8595090565062	8595090554035	8595090565062	8595090565062	8595090554035

BDG-...-V/1-FR.

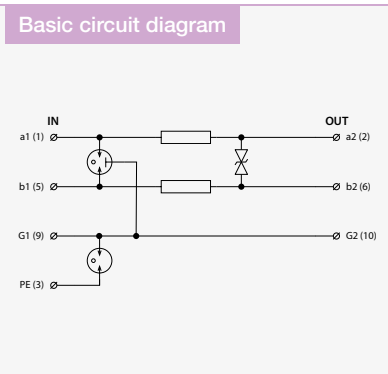
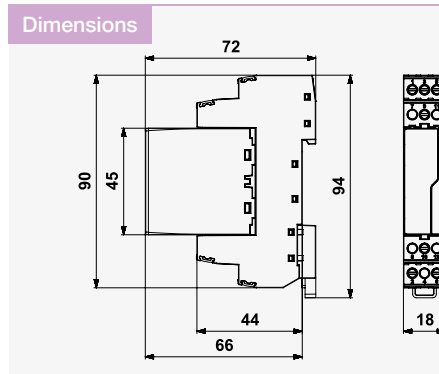
Lightning current arrester

pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces of I&C (version BDG-230), MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of

- surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type		BDG-006-V/1-FR2	BDG-012-V/1-FR2	BDG-024-V/1-FR2	BDG-048-V/1-FR2	BDG-060-V/1-FR2
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L	2 A	2 A	2 A	2 A	2 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) per core GND-PE	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core GND-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V	550 V
C3 voltage protection level mode core-GND at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Response time GND-PE	t_a	100 ns	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	100 ns	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω	0.4 Ω
Threshold frequency core-core	f	1.2 MHz	3 MHz	6 MHz	7 MHz	10 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number		8595090564690	8595090564775	8595090564850	8595090564935	8595090565000
Spare module		BDG-006-V/1-0	BDG-012-V/1-0	BDG-024-V/1-0	BDG-048-V/1-0	BDG-060-V/1-0
Ordering number		8595090553991	8595090554004	8595090554011	8595090554028	8595090564980

BDG-...-V/2-R.

Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

close to protected device

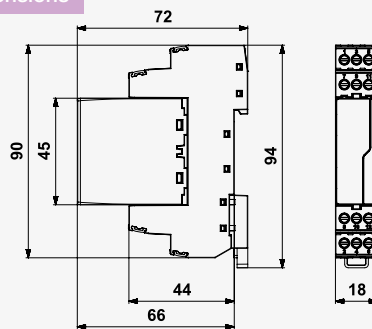
- for protection of communication interfaces of I&C (version BDG-230), MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of

surge voltage

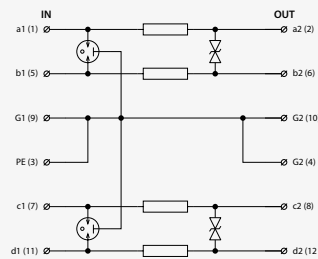
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Dimensions



Basic circuit diagram



Parameter / Type		BDG-006-V/2-R1	BDG-012-V/2-R1	BDG-024-V/2-R1	BDG-048-V/2-R1	BDG-060-V/2-R1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L	1 A	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	100 ns	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core	f	1.2 MHz	3 MHz	6 MHz	7 MHz	10 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number		8595090564737	8595090564812	8595090564898	8595090564973	8595090565055

Spare module	BDG-006-V/2-0	BDG-012-V/2-0	BDG-024-V/2-0	BDG-048-V/2-0	BDG-060-V/2-0
Ordering number	8595090564713	8595090564799	8595090564874	8595090564959	8595090565031

BDG-...-V/2-(F)R.

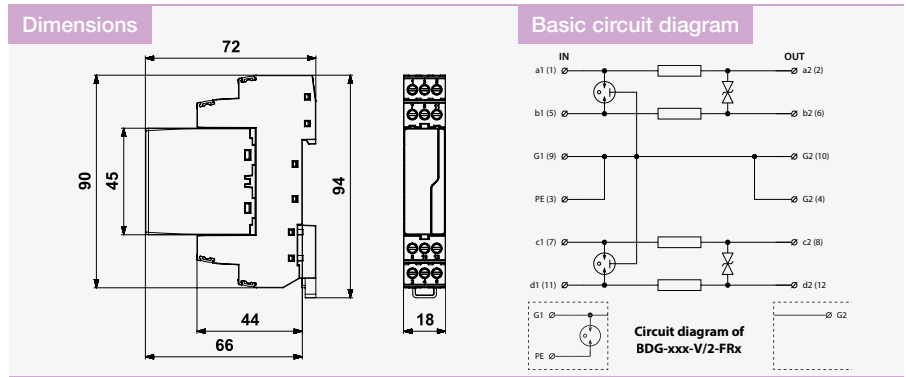
Lightning arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of telecommunication line against impact of surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common

- mode (line – PE)
- F – the line separated from protective earth via GDT



Parameter / Type		BDG-110-V/2-R	BDG-230-V/2-R	BDG-110-V/2-FR	BDG-230-V/2-FR
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	110 V DC	230 V DC	110 V DC	230 V DC
Maximum operating voltage	U_c	85 V AC / 120 V DC	177 V AC / 250 V DC	85 V AC / 120 V DC	177 V AC / 250 V DC
Nominal load current	I_L	0.5 A	0.5 A	0.5 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C2 nominal discharge current (8/20 μ s) per core GND-PE	I_n	–	–	10 kA	10 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	170 V	350 V	170 V	350 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p	–	–	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	–	–	100 ns	100 ns
Serial resistance per core	R	3.3 Ω	3.3 Ω	3.3 Ω	3.3 Ω
Threshold frequency core-core	f	14 MHz	16 MHz	14 MHz	16 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number		8595090565130	8595090565185	8595090565123	8595090565178

Spare module	BDG-110-V/2-0	BDG-230-V/2-0	BDG-110-V/2-0	BDG-230-V/2-0
Ordering number	8595090565116	8595090565161	8595090565116	8595090565161

BDG-...-V/2-FR.

Lightning arrester

pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

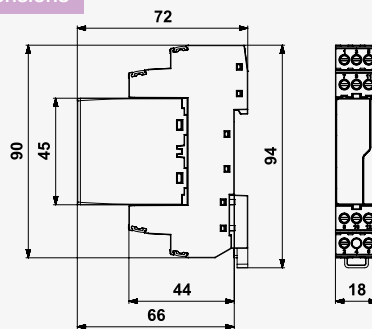
- close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge

voltage

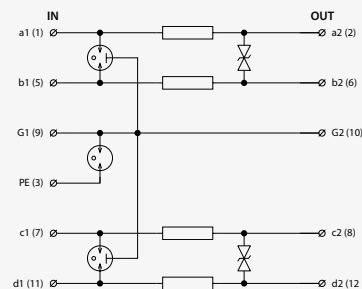
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Dimensions



Basic circuit diagram



Parameter / Type		BDG-006-V/2-FR1	BDG-012-V/2-FR1	BDG-024-V/2-FR1	BDG-048-V/2-FR1	BDG-060-V/2-FR1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	45 V AC / 64 V DC
Nominal load current	I_L	1 A	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) per core GND-PE	I_n	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	12 V	22 V	46 V	65 V	85 V
C3 voltage protection level mode core GND-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V	550 V
C3 voltage protection level mode core-GND at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns	1 ns
Response time GND-PE	t_a	100 ns	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	100 ns	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core	f	1.2 MHz	3 MHz	6 MHz	7 MHz	10 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number		8595090564720	8595090564805	8595090564881	8595090564966	8595090565048
Spare module		BDG-006-V/2-0	BDG-012-V/2-0	BDG-024-V/2-0	BDG-048-V/2-0	BDG-060-V/2-0
Ordering number		8595090564713	8595090564799	8595090564874	8595090564959	8595090565031

BDM-...-V/2-JR.

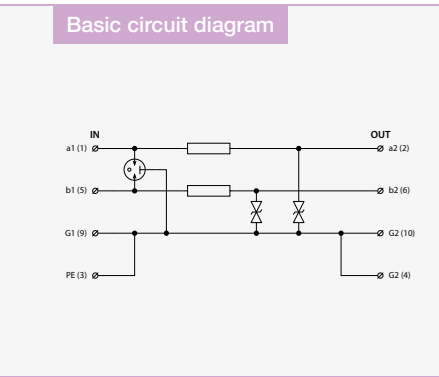
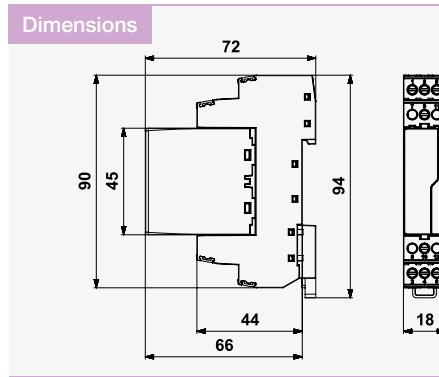
Lightning arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge

- voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type	BDM-006-V/2-JR1	BDM-006-V/2-JR2	BDM-012-V/2-JR1	BDM-012-V/2-JR2	BDM-024-V/2-JR1	BDM-024-V/2-JR2
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n 6 V DC	6 V DC	12 V DC	12 V DC	24 V DC	24 V DC
Maximum operating voltage	U_c 6 V AC / 8.5 V DC	6 V AC / 8.5 V DC	11 V AC / 16 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	25 V AC / 36 V DC
Nominal load current	I_L 1 A	2 A	1 A	2 A	1 A	2 A
C2 nominal discharge current (8/20 μ s) per core	I_n 10 kA	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total} 20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p 12 V	12 V	22 V	22 V	46 V	46 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp} 2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total} 5 kA	5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-PE	t_a 1 ns	1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R 0.8 Ω	0.4 Ω	0.8 Ω	0.4 Ω	0.8 Ω	0.4 Ω
Threshold frequency core-GND	f 0,8 MHz	0,8 MHz	2 MHz	2 MHz	4 MHz	4 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number	8595090563921	8595090563938	8595090564058	8595090564065	8595090564188	8595090564195

Spare module	BDM-006-V/2-J-0	BDM-006-V/2-J-0	BDM-012-V/2-J-0	BDM-012-V/2-J-0	BDM-024-V/2-J-0	BDM-024-V/2-J-0
Ordering number	8595090563891	8595090563891	8595090564027	8595090564027	8595090564157	8595090564157

BDM-...-V/2-JR.

Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

close to protected device

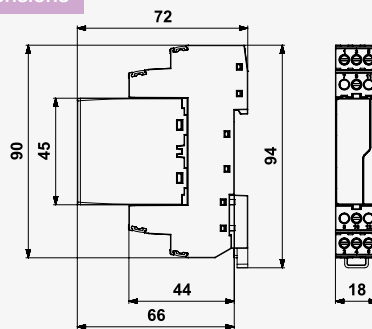
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge

voltage

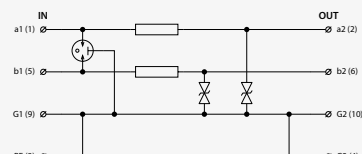
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Dimensions



Basic circuit diagram



Parameter / Type		BDM-048-V/2-JR1	BDM-048-V/2-JR2	BDM-110-V/2-JR	BDM-110-V/2-JR1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	48 V DC	48 V DC	110 V DC	110 V DC
Maximum operating voltage	U_c	36 V AC / 51 V DC	36 V AC / 51 V DC	85 V AC / 120 V DC	85 V AC / 120 V DC
Nominal load current	I_L	1 A	2 A	0.5 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	65 V	65 V	170 V	170 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-PE	t_a	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R	0.8 Ω	0.4 Ω	3.3 Ω	1.6 Ω
Threshold frequency core-GND	f	5 MHz	5 MHz	10 MHz	10 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090564317	8595090564324	8595090564553	8595090564560

Spare module	BDM-048-V/2-J-0	BDM-048-V/2-J-0	BDM-110-V/2-J-0	BDM-110-V/2-J-0
Ordering number	8595090564287	8595090564287	8595090564522	8595090564522

BDM-...-V/2-JFR.

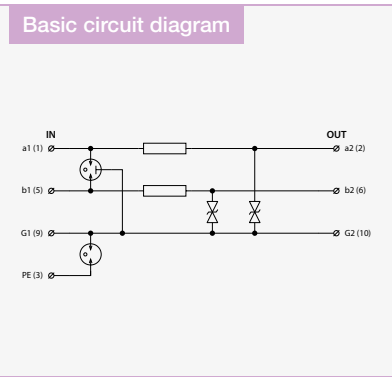
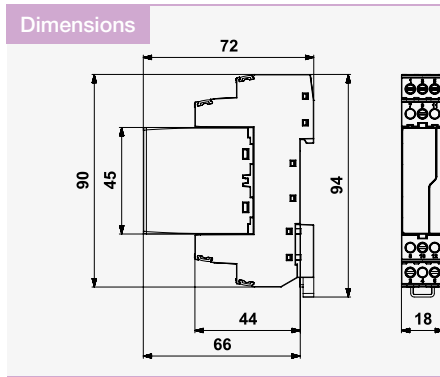
Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge

- voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type	BDM-006-V/2-JFR1	BDM-006-V/2-JFR2	BDM-012-V/2-JFR1	BDM-012-V/2-JFR2	BDM-024-V/2-JFR1	BDM-024-V/2-JFR2
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n 6 V DC	6 V DC	12 V DC	12 V DC	24 V DC	24 V DC
Maximum operating voltage	U_c 6 V AC / 8.5 V DC	6 V AC / 8.5 V DC	11 V AC / 16 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	25 V AC / 36 V DC
Nominal load current	I_L 1 A	2 A	1 A	2 A	1 A	2 A
C2 nominal discharge current (8/20 μ s) per core	I_n 10 kA	10 kA	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE	I_n 10 kA	10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total} 20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core GND-PE at 1 kV/ μ s	U_p 550 V	550 V	550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p 12 V	12 V	22 V	22 V	46 V	46 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp} 2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total} 5 kA	5 kA	5 kA	5 kA	5 kA	5 kA
Response time GND-PE	t_a 100 ns	100 ns	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a 1 ns	1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R 0.8 Ω	0.4 Ω	0.8 Ω	0.4 Ω	0.8 Ω	0.4 Ω
Threshold frequency core-GND	f 0.8 MHz	0.8 MHz	2 MHz	2 MHz	4 MHz	4 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard	EN 61643-21 +A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21 +A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21 +A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21 +A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21 +A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2	EN 61643-21 +A1,A2:2013, IEC 61643-21 +A1,A2:2012 / C2
Ordering number	8595090563907	8595090563914	8595090564034	8595090564041	8595090564164	8595090564171

Spare module	BDM-006-V/2-J-0	BDM-006-V/2-J-0	BDM-012-V/2-J-0	BDM-012-V/2-J-0	BDM-024-V/2-J-0	BDM-024-V/2-J-0
Ordering number	8595090563891	8595090563891	8595090564027	8595090564027	8595090564157	8595090564157

BDM-...-V/2-JFR.

Lightning current arrester

pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection for 2-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

close to protected device

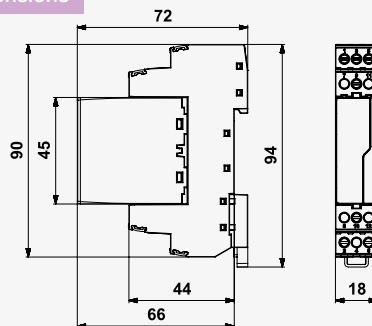
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge

voltage

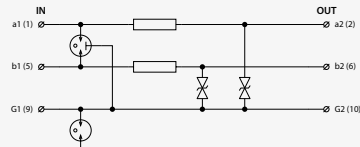
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Dimensions



Basic circuit diagram



Parameter / Type	BDM-048-V/2-JFR1	BDM-048-V/2-JFR2	BDM-110-V/2-JFR	BDM-110-V/2-JFR1
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n 48 V DC	48 V DC	110 V DC	110 V DC
Maximum operating voltage	U_c 36 V AC / 51 V DC	36 V AC / 51 V DC	85 V AC / 120 V DC	85 V AC / 120 V DC
Nominal load current	I_L 1 A	2 A	0.5 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n 10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE	I_n 10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total} 20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode GND-PE at 1 kV/ μ s	U_p 550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p 65 V	65 V	170 V	170 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp} 2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total} 5 kA	5 kA	5 kA	5 kA
Response time GND-PE	t_a 100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a 1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R 0.8 Ω	0.4 Ω	3.3 Ω	1.6 Ω
Threshold frequency core-GND	f 5 MHz	5 MHz	10 MHz	10 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number	8595090564294	8595090564300	8595090564539	8595090564546

Spare module	BDM-048-V/2-J-0	BDM-048-V/2-J-0	BDM-110-V/2-J-0	BDM-110-V/2-J-0
Ordering number	8595090564287	8595090564287	8595090564522	8595090564522

BDM-...-V/4-JR.

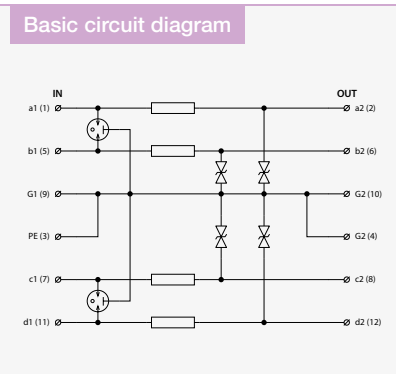
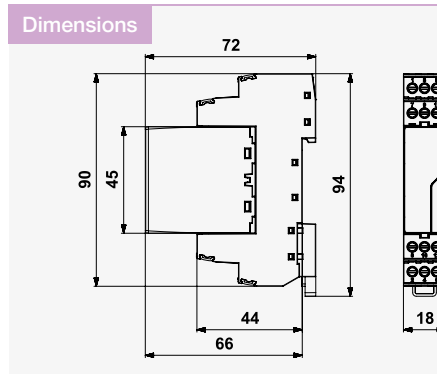
Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for 4-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage

- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type	BDM-006-V/4-JR1	BDM-012-V/4-JR1	BDM-024-V/4-JR1	BDM-048-V/4-JR1	BDM-110-V/4-JR
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n 6 V DC	12 V DC	24 V DC	48 V DC	110 V DC
Maximum operating voltage	U_c 6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	85 V AC / 120 V DC
Nominal load current	I_L 1 A	1 A	1 A	1 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n 10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total} 20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p 12 V	22 V	46 V	65 V	170 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp} 2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total} 5 kA	5 kA	5 kA	5 kA	5 kA
Response time core-PE	t_a 1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R 0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω	3.3 Ω
Threshold frequency core-GND	f 0.8 MHz	2 MHz	4 MHz	5 MHz	10 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number	8595090563976	8595090564102	8595090564232	8595090564362	8595090564607

Spare module	BDM-006-V/4-J-0	BDM-012-V/4-J-0	BDM-024-V/4-J-0	BDM-048-V/4-J-0	BDM-110-V/4-J-0
Ordering number	8595090563952	8595090564089	8595090564218	8595090564348	8595090564584

BDM-...-V/4-JFR.

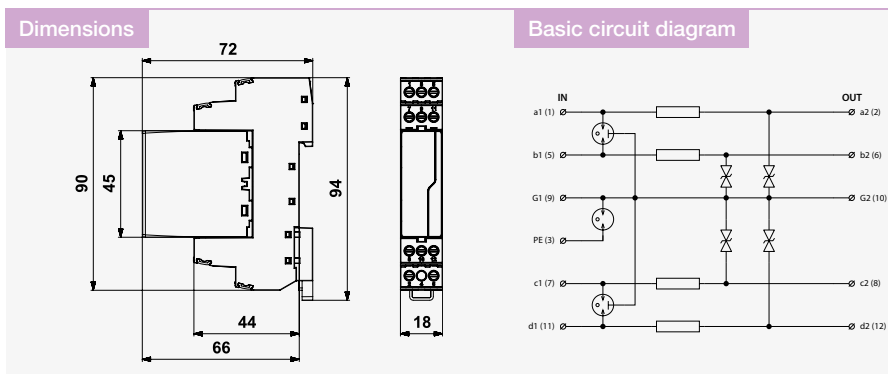
Lightning current arrester

pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection for 4-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage

- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type	BDM-006-V/4-JFR1	BDM-012-V/4-JFR1	BDM-024-V/4-JFR1	BDM-048-V/4-JFR1	BDM-110-V/4-JFR
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n 6 V DC	12 V DC	24 V DC	48 V DC	110 V DC
Maximum operating voltage	U_c 6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC	85 V AC / 120 V DC
Nominal load current	I_L 1 A	1 A	1 A	1 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n 10 kA	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE	I_n 10 kA	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total} 20 kA	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode GND-PE at 1 kV/ μ s	U_p 550 V	550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p 12 V	22 V	46 V	65 V	170 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp} 2.5 kA	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total} 5 kA	5 kA	5 kA	5 kA	5 kA
Response time GND-PE	t_a 100 ns	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a 1 ns	1 ns	1 ns	1 ns	1 ns
Serial resistance per core	R 0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω	3.3 Ω
Threshold frequency core-GND	f 0.8 MHz	2 MHz	4 MHz	5 MHz	10 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm	DIN rail 35mm
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number	8595090563969	8595090564096	8595090564225	8595090564355	8595090564591

Spare module	BDM-006-V/4-J-0	BDM-012-V/4-J-0	BDM-024-V/4-J-0	BDM-048-V/4-J-0	BDM-110-V/4-J-0
Ordering number	8595090563952	8595090564089	8595090564218	8595090564348	8595090564584

BDG-...-V/1-4R1

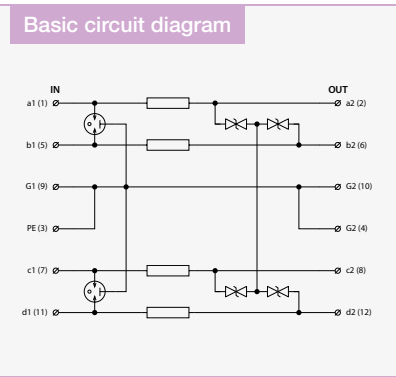
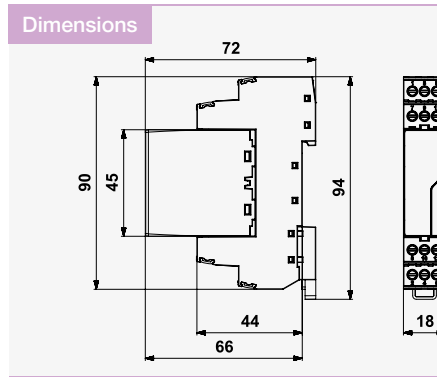
Lightning current arrester

pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection for up to 4-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage

- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Parameter / Type		BDG-006-V/1-4R1	BDG-012-V/1-4R1	BDG-024-V/1-4R1	BDG-048-V/1-4R1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC
Nominal load current	I_L	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	18 V	24 V	46 V	90 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core	f	1.2 MHz	3 MHz	6 MHz	7 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090564683	8595090564768	8595090564843	8595090564928

Spare module	BDG-006-V/1-4-0	BDG-012-V/1-4-0	BDG-024-V/1-4-0	BDG-048-V/1-4-0
Ordering number	8595090564669	8595090564744	8595090564829	8595090564904

BDG-...-V/1-4FR1

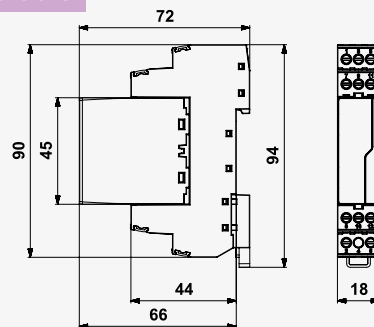
Lightning current arrester

pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

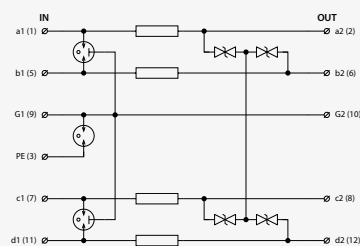
- lightning current arrester with coarse and fine surge protection for up to 4-core signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation close to protected device
- for protection of communication interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage
- coarse and fine surge protection (core – core, GND) in differential mode and coarse surge protection in common mode (line – PE)



Dimensions



Basic circuit diagram



Parameter / Type		BDG-006-V/1-4FR1	BDG-012-V/1-4FR1	BDG-024-V/1-4FR1	BDG-048-V/1-4FR1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	48 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	36 V AC / 51 V DC
Nominal load current	I_L	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	18 V	24 V	46 V	90 V
C3 voltage protection level mode GND-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time GND-PE	t_a	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core	f	1.2 MHz	3 MHz	6 MHz	7 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090564676	8595090564751	8595090564836	8595090564911

Spare module		BDG-006-V/1-4-0	BDG-012-V/1-4-0	BDG-024-V/1-4-0	BDG-048-V/1-4-0
Ordering number		8595090564669	8595090564744	8595090564829	8595090564904

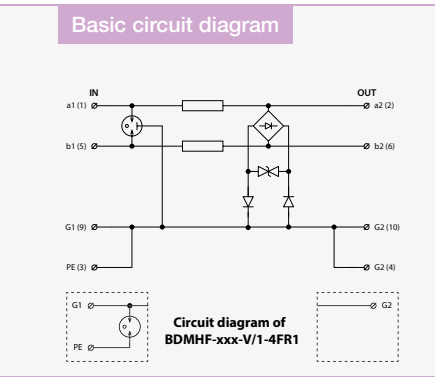
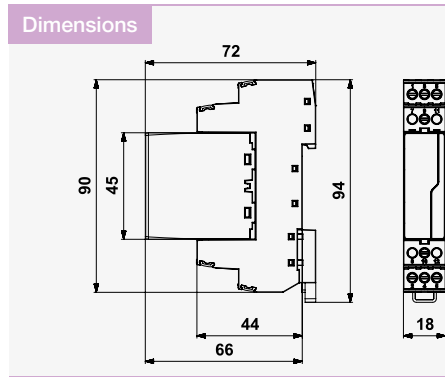
BDMHF-...-V/1-(F)R1

Combination of coarse and fine surge protection for industrial bus-bar system (for example PROFIBUS)
pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection of 2-core high-speed signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces, MaR systems, mainly the RS-485 and PROFIBUS lines, of I&C, MaR, electronic security and fire detection systems, etc. against impact

- of surge voltage
- coarse and fine surge protection in differential mode (core – core) and common mode (core – PE)
- F – the line separated from protective earth via GDT



Parameter / Type	BDMHF-006-V/1-R1	BDMHF-024-V/1-R1	BDMHF-006-V/1-FR1	BDMHF-024-V/1-FR1
Connection (input – output)	terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD	ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage U_n	6 V DC	24 V DC	6 V DC	24 V DC
Maximum operating voltage U_c	6 V AC / 8.5 V DC	25 V AC / 36 V DC	6 V AC / 8.5 V DC	25 V AC / 36 V DC
Nominal load current I_L	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core I_n	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE I_n	–	–	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s U_p	14 V	48 V	14 V	48 V
C3 voltage protection level mode core-PE at 1 kV/ μ s U_p	14 V	48 V	–	–
C3 voltage protection level mode GND-PE at 1 kV/ μ s U_p	–	–	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s U_p	–	–	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core t_a	1 ns	1 ns	1 ns	1 ns
Response time core-PE t_a	1 ns	1 ns	–	–
Response time GND-PE t_a	–	–	100 ns	100 ns
Response time core-GND t_a	–	–	1 ns	1 ns
Serial resistance per core R	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core f	70 MHz	70 MHz	70 MHz	70 MHz
Cross-section of connected conductors solid (min/max)	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection	IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number	8595090565482	8595090565543	8595090565475	8595090565536
Spare module	BDMHF-006-V/1-0	BDMHF-024-V/1-0	BDMHF-006-V/1-0	BDMHF-024-V/1-0
Ordering number	8595090565437	8595090565499	8595090565437	8595090565499

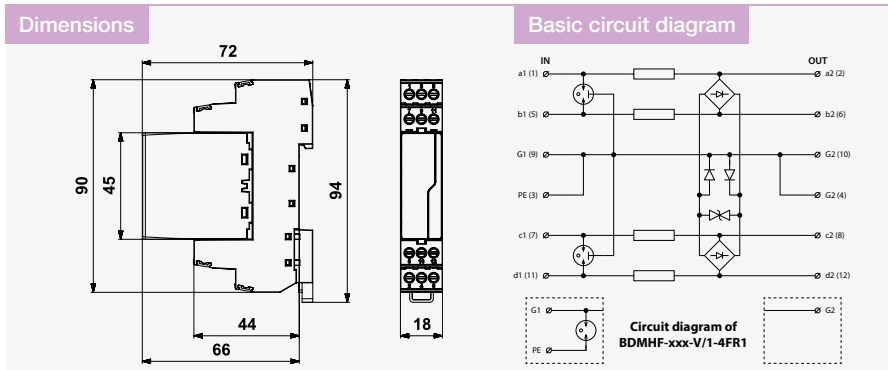
BDMHF-...-V/1-4(F)R1

Combination of coarse and fine surge protection for industrial bus-bar system (for example PROFIBUS)
pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection of 4-core high-speed signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of communication interfaces, MaR systems, mainly the RS-485 and PROFIBUS lines, of I&C, MaR, electronic security and fire detection systems, etc. against impact

- of surge voltage
- coarse and fine surge protection in differential mode (core – core) and common mode (core – PE)
- F – the line separated from protective earth via GDT



Parameter / Type		BDMHF-006-V/1-4R1	BDMHF-024-V/1-4R1	BDMHF-006-V/1-4FR1	BDMHF-024-V/1-4FR1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	24 V DC	6 V DC	24 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	25 V AC / 36 V DC	6 V AC / 8.5 V DC	25 V AC / 36 V DC
Nominal load current	I_L	1 A	1 A	1 A	1 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE	I_n	–	–	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 volt. prot. lev. mode core-core at 1 kV/ μ s	U_p	16 V	48 V	16 V	48 V
C3 volt. prot. lev. mode core-PE at 1 kV/ μ s	U_p	16 V	48 V	–	–
C3 volt. prot. lev. mode GND-PE at 1 kV/ μ s	U_p	–	–	550 V	550 V
C3 volt. prot. lev. mode core GND at 1 kV/ μ s	U_p	–	–	16 V	48 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	1 ns	1 ns	–	–
Response time GND-PE	t_a	–	–	100 ns	100 ns
Response time core-GND	t_a	–	–	1 ns	1 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	0.8 Ω
Threshold frequency core-core	f	70 MHz	70 MHz	70 MHz	70 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090565468	8595090565529	8595090565451	8595090565512

Spare module	BDMHF-006-V/1-4-0	BDMHF-024-V/1-4-0	BDMHF-006-V/1-4-0	BDMHF-024-V/1-4-0
Ordering number	8595090565444	8595090565505	8595090565444	8595090565505

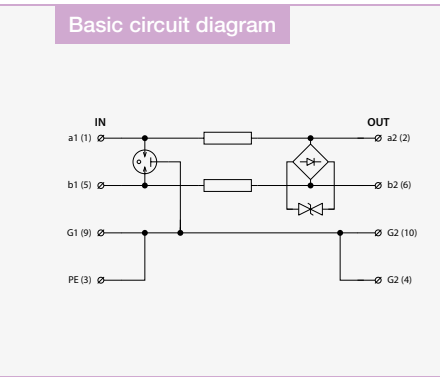
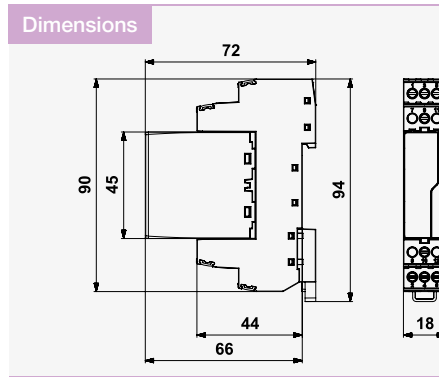
BDGHF-...-V/1-R.

Combination of coarse and fine surge protection for industrial bus-bar system (for example PROFIBUS) pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection of 2-core high-speed signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of telecommunication lines (version BDGHF-230) and interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485,

- PROFIBUS interfaces) against surge voltage
- coarse and fine surge protection in differential mode (core – core) and coarse protection in common mode (core – PE)



Parameter / Type		BDGHF-006-V/1-R1	BDGHF-012-V/1-R1	BDGHF-024-V/1-R1	BDGHF-230-V/1-R
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	230 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	177 V AC / 250 V DC
Nominal load current	I_L	1 A	1 A	1 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	14 V	24 V	48 V	350 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	3.3 Ω
Threshold frequency core-core	f	70 MHz	70 MHz	70 MHz	70 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090565215	8595090565277	8595090565338	8595090565390

Spare module	BDGHF-006-V/1-0	BDGHF-012-V/1-0	BDGHF-024-V/1-0	BDGHF-230-V/1-0
Ordering number	8595090565192	8595090565253	8595090565314	8595090565376

BDGHF-...-V/1-FR.

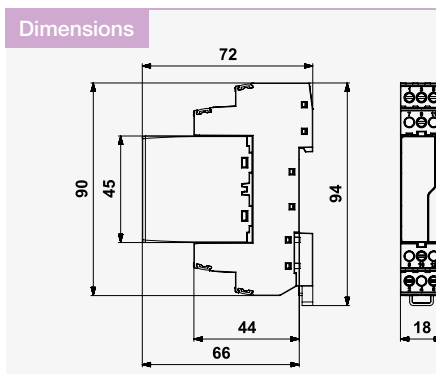
Combination of coarse and fine surge protection for industrial bus-bar system (for example PROFIBUS) pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection of 2-core high-speed signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

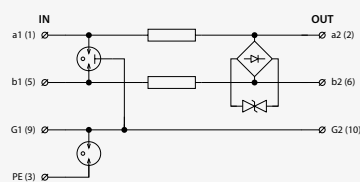
- close to protected device
- for protection of telecommunication lines (version BDGHF-230) and interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485,

PROFIBUS interfaces) against surge voltage

- coarse and fine surge protection in differential mode (core – core) and coarse protection in common mode (core – PE)



Basic circuit diagram



Parameter / Type		BDGHF-006-V/1-FR1	BDGHF-012-V/1-FR1	BDGHF-024-V/1-FR1	BDGHF-230-V/1-FR
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	230 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	177 V AC / 250 V DC
Nominal load current	I_L	1 A	1 A	1 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	14 V	24 V	48 V	350 V
C3 voltage protection level mode GND-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time GND-PE	t_a	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	3.3 Ω
Threshold frequency core-core	f	70 MHz	70 MHz	70 MHz	70 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090565208	8595090565260	8595090565321	8595090565383

Spare module	BDGHF-006-V/1-0	BDGHF-012-V/1-0	BDGHF-024-V/1-0	BDGHF-230-V/1-0
Ordering number	8595090565192	8595090565253	8595090565314	8595090565376

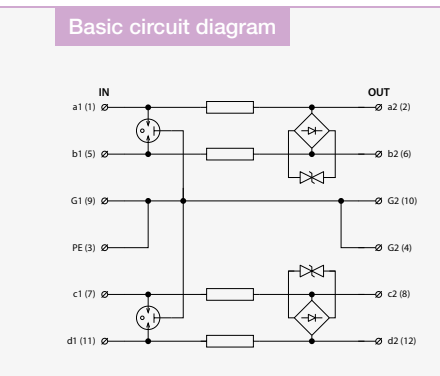
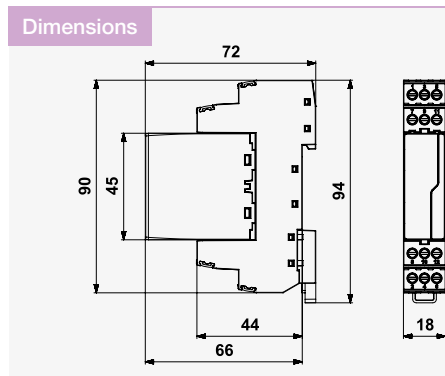
BDGHF-...-V/2-R.

Combination of coarse and fine surge protection for industrial bus-bar system (for example PROFIBUS) pluggable module, coupling impedance (R – resistance)

- lightning current arrester with coarse and fine surge protection of 2-core high-speed signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of telecommunication lines (version BDGHF-230) and interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485,

- PROFIBUS interfaces) against surge voltage
- coarse and fine surge protection in differential mode (core – core) and coarse protection in common mode (core – PE)



Parameter / Type		BDGHF-006-V/2-R1	BDGHF-012-V/2-R1	BDGHF-024-V/2-R1	BDGHF-230-V/2-R1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	230 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	177 V AC / 250 V DC
Nominal load current	I_L	1 A	1 A	1 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	14 V	24 V	48 V	350 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time core-PE	t_a	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	3.3 Ω
Threshold frequency core-core	f	70 MHz	70 MHz	70 MHz	70 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090565246	8595090565307	8595090565369	8595090565420

Spare module	BDGHF-006-V/2-0	BDGHF-012-V/2-0	BDGHF-024-V/2-0	BDGHF-230-V/2-0
Ordering number	8595090565222	8595090565284	8595090558101	8595090565406

BDGHF-...-V/2-FR.

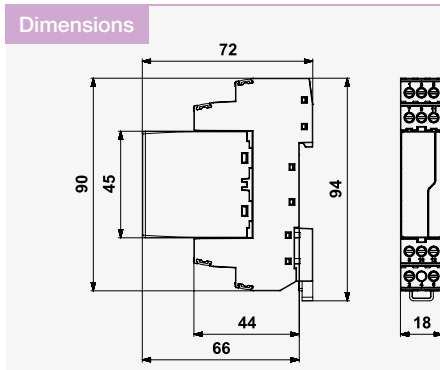
Combination of coarse and fine surge protection for industrial bus-bar system (for example PROFIBUS) pluggable module, coupling impedance (R – resistance), line separated from protective earth via GDT

- lightning current arrester with coarse and fine surge protection of 2-core high-speed signalling lines
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

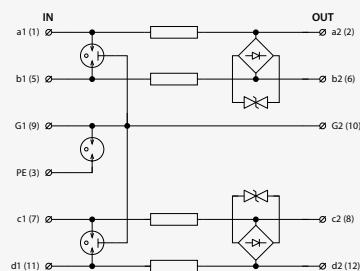
- close to protected device
- for protection of telecommunication lines (version BDGHF-230) and interfaces of I&C, MaR systems, electronic security and fire detection systems, etc. (mainly for RS-485,

PROFIBUS interfaces) against surge voltage

- coarse and fine surge protection in differential mode (core – core) and coarse protection in common mode (core – PE)



Basic circuit diagram



Parameter / Type		BDGHF-006-V/2-FR1	BDGHF-012-V/2-FR1	BDGHF-024-V/2-FR1	BDGHF-230-V/2-FR1
Connection (input – output)		terminals-terminals	terminals-terminals	terminals-terminals	terminals-terminals
Location of SPD		ST 1+2+3	ST 1+2+3	ST 1+2+3	ST 1+2+3
Nominal voltage	U_n	6 V DC	12 V DC	24 V DC	230 V DC
Maximum operating voltage	U_c	6 V AC / 8.5 V DC	11 V AC / 16 V DC	25 V AC / 36 V DC	177 V AC / 250 V DC
Nominal load current	I_L	1 A	1 A	1 A	0.5 A
C2 nominal discharge current (8/20 μ s) per core	I_n	10 kA	10 kA	10 kA	10 kA
C2 nominal discharge current (8/20 μ s) GND-PE	I_n	10 kA	10 kA	10 kA	10 kA
C2 total discharge current (8/20 μ s) cores-PE	I_{Total}	20 kA	20 kA	20 kA	20 kA
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	14 V	24 V	48 V	350 V
C3 voltage protection level mode GND-PE at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
C3 voltage protection level mode core GND at 1 kV/ μ s	U_p	550 V	550 V	550 V	550 V
D1 lightning impulse current (10/350 μ s) per core	I_{imp}	2.5 kA	2.5 kA	2.5 kA	2.5 kA
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	5 kA	5 kA	5 kA	5 kA
Response time core-core	t_a	1 ns	1 ns	1 ns	1 ns
Response time GND-PE	t_a	100 ns	100 ns	100 ns	100 ns
Response time core-GND	t_a	100 ns	100 ns	100 ns	100 ns
Serial resistance per core	R	0.8 Ω	0.8 Ω	0.8 Ω	3.3 Ω
Threshold frequency core-core	f	70 MHz	70 MHz	70 MHz	70 MHz
Cross-section of connected conductors solid (min/max)		0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²	0.14 mm ² / 4 mm ²
Cross-section of connected conductors stranded (min/max)		0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²	0.14 mm ² / 2.5 mm ²
Degree of protection		IP 20	IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C	-40 °C / 70 °C
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2
Ordering number		8595090565239	8595090565291	8595090565352	8595090565413

Spare module	BDGHF-006-V/2-0	BDGHF-012-V/2-0	BDGHF-024-V/2-0	BDGHF-230-V/2-0
Ordering number	8595090565222	8595090565284	8595090558101	8595090565406

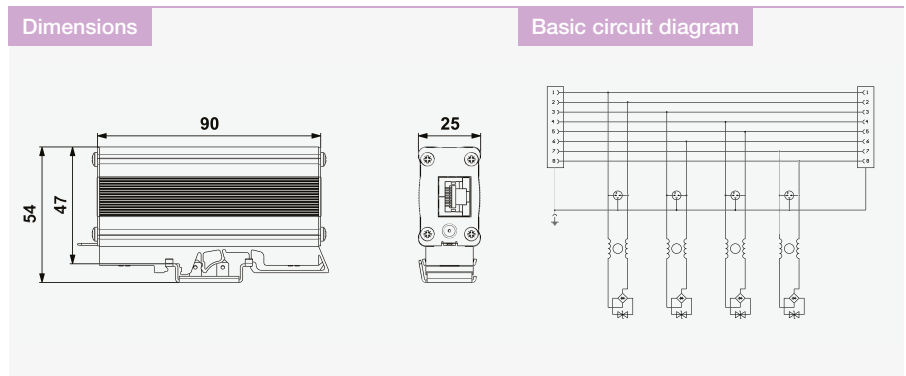
DL-.G-RJ45-60V

Surge protection for structured cabling RJ45 sockets

- lightning current arrester with combination coarse and fine protection
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building or higher and also installation

- close to protected device
- for protection of IP telephony line and signals via structured UTP / FTP / STP cables Cat. 6 (A) against pulse overvoltage

- for protection of Ethernet line Cat. 6 against surge voltage
- in the scope of delivery: universal plastic adapter for mounting on DIN rail and GND 2 holder



Parameter / Type		DL-1G-RJ45-60V	DL-10G-RJ45-60V
Location of SPD		ST 1+2+3	ST 1+2+3
Maximum operating voltage	U_c	60 V DC	60 V DC
Nominal load current	I_L	0.50 A	0.50 A
C2 nominal discharge current (8/20 μ s) per core	I_n	0.15 kA	0.15 kA
C2 total discharge current (8/20 μ s) core-PE	I_{Total}	10.00 kA	10.00 kA
C2 voltage protection level mode core-core at I_n	U_p	100.00 V	100.00 V
C3 voltage protection level mode core-core at 1 kV/ μ s	U_p	90.00 V	90.00 V
C3 voltage protection level mode core-PE at 1 kV/ μ s	U_p	500.00 V	500.00 V
D1 total discharge current (10/350 μ s) cores-PE	I_{Total}	2.00 kA	2.00 kA
Response time core-core	t_a	1.00 ns	1.00 ns
Response time core-PE	t_a	100.00 ns	100.00 ns
Insertion attenuation at 250 MHz		1.50 dB	-
Insertion attenuation at 500 MHz		-	2.50 dB
Connection (input – output)		RJ 45/RJ 45	RJ 45/RJ 45
Degree of protection		IP 20	IP 20
Mounting		DIN rail 35 mm	DIN rail 35 mm
Range of operating temperatures (min/max)		-40 °C ... 80 °C	-40 °C ... 80 °C
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2,C3	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / C2,C3
Ordering number		8595090562207	8595090562214

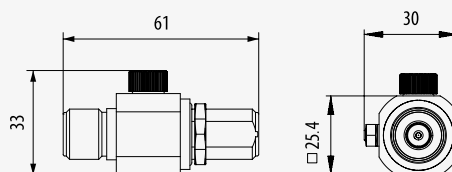
HX-470-N50 F/.

Lightning current arrester for coaxial line connectors N 50 Ω

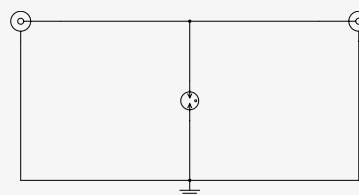
- lightning current arrester for coaxial line
- installation at the boundary of LPZ 0 and LPZ 1 zones at the line entry into building
- for protection of coaxial lines and telecommunication device against impact of direct or indirect lightning strike
- suitable for the combined signal and power supply installations
- maximum transmit power up to 1.8 kW



Dimensions



Basic circuit diagram



Parameter / Type		HX-470-N50-F/M	HX-470-N50-F/F
Location of SPD		ST 1+2	ST 1+2
Maximum operating voltage	U_c	360 V DC	360 V DC
Nominal load current	I_L	6 A	6 A
C2 total discharge current (8/20 μs) core-PE	I_n	10 kA	10 kA
D1 total discharge current (10/350 μs) cores-PE	I_{Total}	2.5 kA	2.5 kA
C3 voltage protection level mode core-PE at 1 kV/μs	U_p	980 V	980 V
Response time core-PE	t_a	100 ns	100 ns
Performance	P	1,800 W	1,800 W
Wave impedance	Z	50 Ω	50 Ω
Bandwidth - min	f	0 MHz	0 MHz
Bandwidth - max	f	1.8 GHz	1.8 GHz
Insertion attenuation		0.1 dB	0.1 dB
SWR	SWR	1.2	1.2
Connection (input – output)		N 50	N 50
Degree of protection		IP 66	IP 66
Range of operating temperatures (min/max)		-40 °C / 80 °C	-40 °C / 80 °C
According to standard		EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2,C3	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number		8595090565550	8595090565567

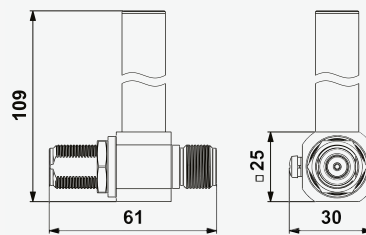
ZX-0,44-N50-F/.

Lightning current arrester for coaxial line
connectors N 50 Ω, λ/8 wave length shortcut

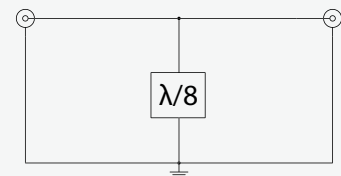
- lightning current arrester uses λ/8 wave length shortcut
- installation at the boundary of LPZ 0 and LPZ 1 zones (or higher) at the line entry into building
- for protection of coaxial radio lines and telecommunication devices against impact of direct or indirect lightning strike
- it works like band-pass (filter) for a relatively narrow frequency spectrum around the base frequency, outside of this spectrum it works like a short circuit (not suitable for combination with power supply)



Dimensions



Basic circuit diagram



Parameter / Type	ZX-0,44-N50-F/F	ZX-0,44-N50-F/M
Location of SPD	ST 1+2+3	ST 1+2+3
C2 total discharge current (8/20 μs) core-PE	I_n 20 kA	20 kA
D1 lightning impulse current (10/350 μs) per core	I_{imp} 5 kA	5 kA
C3 voltage protection level mode core-PE at 1 kV/μs	U_p 0.25 V	0.25 V
Wave impedance	Z 50 Ω	50 Ω
Insertion attenuation	0.2 dB	0.2 dB
SWR	SWR 1.2	1.2
Connection (input – output)	female N 50 / female N 50	female N 50 / female N 50
Degree of protection	IP 20	IP 20
Range of operating temperatures (min/max)	-40 °C ... 80 °C	-40 °C ... 80 °C
According to standard	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2,C3	EN 61643-21+A1,A2:2013, IEC 61643-21+A1,A2:2012 / D1,C2
Ordering number	8595090562078	8595090562887

GIGATESTpro

Digital SPD tester

Test tips

- Tester SPDs (MOVs or GDTs)
- Measurements of insulation resistance
- Measurement of voltage
- The database of SPDs in the instrument
- Easy test result



Parameter	GIGATESTpro
Test of SPDs	
Measuring range	40 V ÷ 1,050 V
Resolution	1 V
Reference error	± (2% R + 2 D)*
Measuring principle	Increasing DC voltage and simultaneously measures the 1 mA current through the SPD
Insulation resistance	
Measuring range	0.100 MΩ ÷ 9.999 GΩ (U = 50 V ÷ 1,000 V)
Nominal test current	≥ 1 mA
Automatic discharge of tested object	yes
DC and AC voltage (TRMS)	
Measuring range	0 V ÷ 600 V DC / AC (45 Hz ÷ 65 Hz)
Resolution	1 V
Reference error	± (2% R + 2 D)*
Power supply	4× AAA alkaline battery 1.5 V or NiMH accumulator 1.2 V
Display	High contrast bright multicolour graphic OLED
Overvoltage category	CAT III / 300 V or CAT II / 600 V
Ordering number	B00010

* R: reading, D: digit

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